VEGETATION OF SOUTH AND CENTRAL GIPPSLAND

by

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ABSTRACT

Guilan, P.K., Forbes, S.J., Earl, G.E., Barley, R.H. & Walsh, N.G. Vegetation of South and Central Gippsland. *Muelleria* 6 (2):97-145 (1985). — Areas of South and Central Gippsland, Victoria, were surveyed between 1979 and 1983 using a floristics-based, quadrat-sampling technique. The data from 246 quadrat sites of these surveys plus 623 quadrat sites from surveys carried out by others between 1972 and 1981 were analysed using a computerbased, numerical sorting and classification procedure to determine the major floristic vegetation types of the area. These were then arranged hierarchically into 20 floristic *communities*, each with one or more distinct floristic *subcommunities*.

Communities defined in this paper include alpine heaths, wet mountain forests in the north and central highlands of the area, grassy woodlands, heathy woodlands and open forests of the inland and near-coastal lowlands, and salt marsh and mangrove of the coast.

INTRODUCTION

This paper presents the results of a floristic vegetation survey of Central Gippsland and part of South Gippsland. Its purpose is to define and describe the major floristic vegetation communities of the area and give an indication of their geographical and environmental ranges.

The results incorporate data from 246 quadrat sites examined between 1979 and 1983 by a team from the National Herbarium of Victoria and from 623 quadrat sites examined by others between 1972 and 1981 (see Data Collection).

THE STUDY AREA

The study area is approximately 9000 km² and includes the shires of Narracan, Warragul, Morwell, Rosedale, Mirboo, Alberton and part of South Gippsland (Fig. 1). It encompasses the catchments of the Albert and Tarra Rivers, Bruthen and Merriman Creeks and most of the Latrobe River and its tributaries (e.g. the Thomson, Tyers, Tanjil and Morwell Rivers). The highest point in the area is 1560 m at Mt St Phillack on the Baw Baw Plateau and the lowest elevation is sea-level at Corner Inlet to the south (Fig. 2). Precipitation varies from below 700 mm per annum in the east to above 1400 mm per annum on the Baw Baw Plateau, where some falls as snow (Fig. 3).



Fig. 1. Location of the Study Area in Victoria.

*National Herbarium of Victoria, Birdwood Avenue, South Yarra, Victoria, Australia 3141.



Fig. 2. Study Area showing topography and rivers.



Fig. 3. Study Area showing localities and mean annual rainfall in mm.



Fig. 4. Study Area showing all quadrat sites.

THE SURVEY

Method

DATA COLLECTION

Floristic and structural data were available from 901 quadrats, 869 of which were used in the analysis (32 sites from different surveys had inadequate locality information for use in sub-community descriptions). These quadrats were from the sources outlined below and were chosen to represent examples of all major stands of vegetation within the study area (Fig. 4).

246 quadrats: Field surveys by the National Herbarium survey team in 1979, 1981 and 1983, quadrat numbers beginning with 08, 09, 10, 28 and 40.

275 quadrats: Unpublished Ph.D. Thesis and field notes of G.C. Suckling, Monash University, quadrat numbers beginning with 26 (Suckling 1980, and associated raw data).

120 quadrats: Field survey by G.W. Carr working for Kinhill Planners Pty. Ltd., quadrat numbers beginning with 22 and 25 (Carr 1981, and associated raw data).

84 quadrats: Field survey of the Holey Plains National Park by G.A. Parr-Smith, Victorian National Parks Authority, quadrat numbers beginning with 23 (Parr-Smith 1978, and associated raw data).

76 quadrats: Field survey by N.H. Scarlett, Melbourne University, quadrats 27007-27082 (unpublished data collected 1973).

57 quadrats: Field survey of Gellions Run by A.R.G. McMahon, Land Conservation Council, Victoria, quadrat numbers beginning with 24 (McMahon 1981, and associated raw data).

6 quadrats: Field survey of Tarra Valley and Bulga National Parks by J.R. Busby, Monash University, quadrats 27001-27006 (unpublished data collected 1972).

5 quadrats: Field survey of Baw Baw Reference Area by D. Cheal, Victorian National Parks Authority (1982), quadrats 40009-40013.

The format and quality of data from these sources varied but all included a list of all vascular plant species from a quadrat site which was considered to be representative of the native vegetation of the area. At each quadrat site the performance of each species was visually assessed and assigned a numerical value on the Braun-Blanquet scale (see Gullan 1978).

A structural description of the vegetation at each quadrat was also made and was later standardized (by the authors of this report) to conform with the system of Specht (1970).

Each quadrat was located on a 1:100,000 scale topographic map and from this the altitude, latitude and longitude were determined.

PLANT IDENTIFICATION

Nomenclature follows that of Forbes et al. (1984).

In most cases where plants could not be identified in the field, specimens were collected and later checked against a reference collection (usually that of the National Herbarium). Where identification to species level was not possible, or beyond the capabilities of the worker, nomenclature was taken to a higher taxonomic level (e.g. *Juncus* spp., Gramineae sp.).

The following is a list of those taxa in which nomenclature qualifications need to be made as a result of difficulties with identifications or changes in classification of some plant groups subsequent to the original data collection.

Amyema pendulum, A. miquelii—because of the difficulties in collecting these arboreal parasites and their superficial vegetative similarity, all specimens have been recorded as A. pendulum, the commoner species.

Cassinia aculeata, C. longifolia, C. trinerva—may not have been correctly identified at times due to the unavailability of suitable field key (e.g. Willis 1973) at the time of sampling for some of the workers. Recent field studies suggest that *C. trinerva* is more common than the data in this report suggest.

Casuarina paludosa, C. pusilla—lines of demarcation between these taxonomically complex species are often unclear. Intermediate specimens have been referred to *C. paludosa,* the commonest species in eastern Victoria.

Centaurium erythraea, C. tenuiflorum—distinction between these species is complicated by the broad overlap in floral and vegetative characteristics. In the absence of adequate flowering material specimens have been recorded as *C. tenuiflorum*.

Chiloglottis spp.—non-flowering individuals of this genus are almost indistinguishable and in such cases the commonest species *C. gunnii* has been recorded.

Craspedia glauca, Craspedia sp. D—lowland individuals of this species complex were recorded as *C. glauca* whereas alpine specimens have been identified with reference to the arrangement of Costin *et al.* (1981).

Erigeron pappochromus, Erigeron spp. A,B,C-the same procedure as that used on Craspedia was adopted.

Eucalyptus viminalis—No distinction was made between the riparian and near-coastal ecotypes of this species (regarded by some authors as distinct species) as intergradation between forms was almost complete within the study area.

Geranium potentilloides, G. retrorsum, G. solanderi—these species are virtually indistinguishable in the vegetative state and, when no flowering material was available, specimens were referred to the commonest species, G. potentilloides.

Juncus spp. Section Genuini—due to the unavailability of diagnosis for all species within this taxonomically difficult group (particularly for some of the earlier workers) specimens may not have been identified beyond Juncus spp.

Luzula campestris sp. agg.--most specimens of Luzula were lumped into the species aggregate, however 18 specimens were identified with reference to Edgar (1975).

Poa australis sp. agg.—J.W. Vickery's taxonomic study of *Poa* was published in 1970. This revision has gained varied acceptance amongst field botanists and few of the species in this aggregate have been identified further than *P. australis*. However, some of the more recent data from the high country and the lowlands near Driffield incorporates identification to species level.

Rubus fruticosus sp. agg.—about 15% of the specimens have been identified with reference to Amor and Miles (1974). The remainder have been retained as *R. fruticosus* sp. agg., either because of the unavailability of suitable material or because of individual contributor's non-acceptance of this revision.

Senecio spp. (Erechtites group)—when young or infertile, members of this group are often indistinguishable. In such cases specimens have been labelled Senecio spp.

DATA STORAGE AND ANALYSIS

Information from each quadrat site (floristics, locality, altitude and sampling date) was stored on magnetic disk. Analyses were in the form of a computer-based, numerical classification procedure coupled with a hand-sorting procedure of the type outlined in Gullan (1978). The final result of this analysis is a two-way table which holds all of the raw data in a sorted form. However, because most species occur in less than 10% of the quadrats and add little to the overall vegetation description, the two-way tables presented in this paper do not contain all the species recorded in each quadrat. For a full explanation of the two-way tables see Gullan *et al.* (1981).

Terminology

The terminology associated with the vegetation classification follows that of Gullan *et al.* (1981). The terms used are discussed briefly here.

SUB-COMMUNITY

A sub-community is a group of quadrats which have a similar floristic composition.

COMMUNITY

A community is a collection of one or more sub-communities which have floristic and environmental affinities. The community may represent a floristic continuum along which arbitrary divisions have been made to form sub-communities. It may represent a collection of sub-communities which are considered to be different temporal phases of the same vegetation or a single vegetation under different disturbance regimes (e.g. fire, grazing, clearing).

CHARACTER SPECIES

A character species is one which occurs frequently and consistently in the quadrats of a sub-community and is useful as an indicator of that sub-community. For a full discussion of this term and its numerical calculation see Gullan *et al.* (1981).

COMMUNITY NAMES

These are familiar and descriptive names (common names) applied to the communities and take into account common, although often imprecise, terminology (e.g. Wet Sclerophyll Forest). The naming system used here is described more fully in Gullan *et al.* (1981). Where appropriate the names of communities in this paper follow those of Gullan *et al.* (1981) and Forbes *et al.* (1982).

Limitations and Qualifications

FLORISTICS

As each quadrat was sampled only once, some annual ephemeral species may have been missed at quadrat sites.

DISTRIBUTION OF SUB-COMMUNITIES

The distribution maps provided with the sub-community descriptions show sites where

a sub-community has been positively recorded. They are not exhaustive maps of each sub-community.

WEEDS

The mean weed composition of each sub-community has been determined in this paper. This is an indicator of weed invasion into native plant communities. It should not be interpreted as an indicator of the abundance of weeds in the entire study area.

RESULTS

The results of the survey and its analysis are presented in three different ways in order to provide easy access to any piece of information relevant to the aims of this paper.

Two-way Tables

The two-way tables (Tables 1-9) contain a succinct description of the floristic composition of the vegetation and are the most important source of information on floristic variation within and between different kinds of vegetation (see Gullan *et al.*, 1981).

Community Descriptions

Twenty communities have been described for the South and Central Gippsland study area. These represent the major extant vegetation types of the region. However the descriptions will not always reflect the floristic composition and natural distribution of these communities prior to European settlement. Since settlement large areas of native vegetation have been cleared for pasture and pine plantations (*Pinus radiata*).

Undoubtedly the Grassy Woodland community has suffered most from this disturbance. This is reflected by the abundance of introduced species in the community and by the fragmentation of its remnant stands. It is probable that some sub-communities of Grassy Woodland have been completely destroyed by extensive land clearance immediately north and south of the Princes Highway. One of these sub-communities may have been dominated by *Eucalyptus tereticornis* (Forest Red Gum), a species once widespread in the study area but now restricted to a few sites north of the Strzelecki Ranges on alienated land.

A brief description of each of the major communities in South and Central Gippsland (SCG) is given below.

SCG COMMUNITY 1: Alpine Wet Heath (Fig. 5a; 5 sites).

An open to closed-heath community confined to depressions and drainage basins of the Baw Baw Plateau. The vegetation varies in structure and floristic composition depending on the water content of the soil.

SCG COMMUNITY 2: Alpine Heath (Fig. 5b; 4 sites).

An open to closed-heath community found on exposed hillsides between the depressions supporting Alpine Wet Heath and the hills supporting Snow Gum Woodland on the Baw Baw Plateau. The species dominating this community are often those that are common in the understorey of Snow Gum Woodland (Walsh *et al.*, 1984).

SCG COMMUNITY 3: Snow Gum Woodland (Fig. 5c; 7 sites).

A woodland dominated by the small, often mallee-form tree, *Euca-lyptus pauciflora*. The community is restricted to well-drained soils on hills and ridges of the Baw Baw Plateau and surrounds. The understorey is different from that of representatives of this community in other parts of Victoria, in the abundance of the shrubs *Pultenaea muelleri* and *Wittsteinia vacciniacea*, the latter being endemic to the plateau and a few nearby ridges and peaks.

SCG COMMUNITY 4: Subalpine Riparian Scrub (Fig. 5d; 6 sites).

A closed-scrub community of moist, protected gullies above 900 m in the region of the Baw Baw Plateau. *Nothofagus cunninghamii* (growing as a large dense shrub) and *Leptospermum grandifolium* usually dominate an understorey of shrubs sedges and herbs.

SCG COMMUNITY 5: Montane Sclerophyll Woodland (Fig. 5e; 2 sub-communities; 16 sites).

A floristically-rich, sclerophyllous woodland of exposed, stoney slopes and ridges, usually above 700 m. The trees are often stunted *E. radiata, E. dives* and *E. cypellocarpa*. Understorey species include many Damp Sclerophyll Forest plants as well as species indicative of dry ridges.

SCG COMMUNITY 6: Cool Temperate Rainforest (Fig. 5f; 2 sub-communities; 30 sites).

A closed-forest dominated by *Nothofagus cunninghamii* (as a tree to 25 m; cf. SCG Community 4) growing in deep, protected gullies particularly within the high-rainfall parts of the Strzelecki Ranges. The understorey is dominated by a range of tree-ferns which grow with a range of smaller ground and epiphytic ferns.

SCG COMMUNITY 7: Wet Sclerophyll Forest (Fig. 5g; 58 sites).

A tall open-forest, usually dominated by *E. regnans* and growing on deep loamy soils of wetter mountain ranges at altitudes of 100 to 1000 m. Other major tree species of this forest include *E. obliqua, E. cypellocarpa* and *E. radiata* on more exposed sites, and *E. viminalis* on riparian sites.

SCG COMMUNITY 8: Dry Sclerophyll Forest (Fig. 5h; 2 sub-communities; 19 sites).

An open-forest on loam to sandy-loam soils at altitudes of 80 to 200 m in the vicinity of the Holey Plains. The major tree species are *E. globoidea* and *E. consideniana* which dominate a very species-poor understorey supporting dense stands of *Pteridium esculentum, Gahnia radula* and *Leptospermum phylicoides*. The community has obviously suffered severe disturbance in the past and supports fewer species than it would have in pre-European times.

SCG COMMUNITY 9: Damp Sclerophyll Forest (Fig. 6a; 9 sub-communities; 226 sites).

An open-forest to tall open-forest of loam soils at altitudes usually between 50 and 700 m. This is the most variable community in the study area both floristically and structurally. Since the destruction of most of the Wet Sclerophyll Forest, either through clearing by early settlers or burning in the 1939 fires, Damp Sclerophyll Forest has become the most heavily utilized community for timber production and allied forest products (e.g. woodchips).

SCG COMMUNITY 10: Leptospermum myrsinoides Heathland (Fig. 6b; 3 sub-communities; 202 sites).

A woodland with a heathland understorey on sandy soils below 300 m. In more western areas (e.g. Mornington Peninsula, Lower Glenelg National Park) this community often exists without, or with only a sparse, tree cover. In the study area, however, the tree layer is usually well developed.

The understorey is always dominated by the dense shrub Leptospermum myrsinoides but the tree layer varies. In the south, *E. viminalis* (var. pryoriana, a stunted sometimes mallee-form ecotype) is the major tree species, in the central region (e.g. Mullungdung and Boodyarn Forests) *E. consideniana* and *E. radiata* are the commonest species and in the north-east (Holey Plains), *E. nitida* is the commonest species. In all regions *Banksia serrata* is abundant.

SCG COMMUNITY I2: Grassy Woodland (Fig. 6c; 4 sub-communities; 110 sites).

An open-forest to woodland community found on flat to gently undulating, clay-loam soils at altitudes of 20 to 220 m. The main tree species, *E. radiata* and *E. viminalis*, dominate an understorey made up largely of grasses and other monocotyledons, and herbaceous dicotyledons. Shrubs are locally abundant but not usually dominant in the understorey.

Because of relatively flat terrain on which this community is found, small depressions may become seasonally waterlogged. In these depressions *E. ovata* is usually the dominant tree species and *Melaleuca ericifolia* Scrub can develop beneath it.

Grassy Woodland has been heavily utilized for grazing throughout its range in the study area. As a consequence it is the most fragmented and weedy of the communities in the region.





Fig. 5. Distribution maps for communities 1-8.

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Fig. 6. Distribution maps for communities 9, 10 and 12-17.



Fig. 7. Distribution maps for communities 18-21.

SCG COMMUNITY 13: Freshwater Marsh (Fig. 6d; 2 sub-communities; 5 sites).

Aquatic vegetation in pools of standing water on lowland farming areas. Plants include those that are floating on the water surface (e.g. *Lemna minor*) and those that are rooted in the substrate (e.g. *Potamogeton spp., Triglochin procera*).

SCG COMMUNITY 14: Coastal Heathland (Fig. 6e; 2 sub-communities; 20 sites).

A closed-heath to open-woodland on poorly drained, sandy soils, principally of near-coastal regions. The dominant species of the community are *Melaleuca* squarrosa, Leptospermum myrsinoides, and Xanthorrhoea resinosa, which grow in conjunction with a variety of sedges and small sclerophyllous shrubs.

SCG COMMUNITY 15: Sedge Swampland (Fig. 6f; 7 sites).

An open-sedgeland community usually occurring on waterlogged soils near the wetter parts of Coastal Heathland. In most cases the vegetation is dominated by one or two species of sedge, often to the exclusion of all other species (e.g. *Lepidosperma longitudinale*).

SCG COMMUNITY 16: Melaleuca ericifolia Scrub (Fig. 6g; 7 sub-communities; 32 sites).

A closed-scrub community dominated by *Melaleuca ericifolia* but with a varied understorey. Thickets of *M. ericifolia* are found on wet heavy soils in lowland areas in four distinctly different environments.

(i) Sand-clay soils in association with Coastal Heathland.

(ii) Clay-loam soils on highly disturbed, often pastoral sites associated with Riparian Scrub or Grassy Woodland.

(iii) Poorly-drained sands in disturbed coastal regions associated with Coastal Banksia Woodland.

(iv) Poorly-drained coastal mudflats inland from and associated with Salt Marsh.

SCG COMMUNITY 17: Riparian Scrub (Fig. 6h; 2 sub-communities; 12 sites).

A closed-scrub to open-woodland of lowland, shallow and slowrunning watercourses and alluvial soils. The sites on which this community is found are generally very disturbed and support large populations of introduced, opportunistic species. Chief amongst the native species are *E. ovata* (an occasional stunted tree), *Melaleuca squarrosa* and *Leptospermum* spp., which dominate the shrub layer, and a range of sedges, grasses, herbs and ferns, each of which may dominate the ground layer in localised patches.

SCG COMMUNITY 18: Unclassified (Fig. 7a; 3 sites).

A disturbed, species-poor vegetation dominated by *M. squarrosa* and possibly a depauperate version of Coastal Heathland.

SCG COMMUNITY 19: Mangrove (Fig. 7b; 2 sites).

A closed-heath to closed-scrub community consisting entirely of one species, *Avicennia marina*, and forming a broad band between the Salt Marsh and the sea along the coast of Corner Inlet and the offshore islands.

SCG COMMUNITY 20: Salt Marsh (Fig. 7c; 21 sites).

An open-heath to closed-herbfield community of salt-tolerant, often succulent species growing on the intertidal mudflats of Corner Inlet and the offshore islands. The community is markedly zoned from seaward to landward. The outermost band is usually made up entirely of *Sarcocornia quinqueflora*. Landward from this is a heathland which is dominated by *Sclerostegia arbuscula* growing over a range of herbs. Further inland is a closed-herbfield with a mixture of low herbs and semi-shrubs.

SCG COMMUNITY 21: Coastal Banksia Woodland (Fig. 7d; 2 sub-communities; 9 sites).

A low open-forest to woodland found on well-drained calcareous sands of coastal regions. The large shrub *Banksia integrifolia* dominates an understorey of smaller sclerophyllous shrubs, herbs and sedges.

Sub-community Summary Sheets

The following three sets of information have been amalgamated to produce a summary sheet for each of the 46 sub-communities. These summary sheets constitute the primary means of describing vegetation in this paper.

SUB-COMMUNITY DISTRIBUTION MAPS: the distribution of each sub-community throughout the study area is shown by means of a schematic map of the study area on which is marked the location of its constituent quadrats.

CHARACTER SPECIES TABLES: These tables summarise information from the two-way tables and present it in a different format. The tables contain the character species of each subcommunity, listed in order of their frequency of occurrence, and the frequency and mean cover/abundance of each species. In contrast to the two-way tables, in which the species are arranged to demonstrate the interrelationships between sub-communities, the character species tables have the species arranged to show their relative importance within an individual sub-community.

SUB-COMMUNITY DESCRIPTIONS AND ANNOTATIONS: A simple description has been made for each sub-community which includes briefly summarised information on its distribution, environment, altitude, structure, floristic richness and weed composition.

Table 1. Two-way table of Communities 1-5.

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Epacris paludosa	1212+	+		T		
Ulearia algida	1+1+1	+1				
Richea continentis	+2411			+ 1		
Sphagnum spp.	42+22					
Baeckea utilis	++++					
Blechnum penna-marina	++++		1	1		
Gentianella diemensis	1+++					
Craspedia sp 'D'	1+++					
Euphrasia gibbsiae	11 +1	4				
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Carpha mivicola	11 1					
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Cyathea cunninghamii Cyathea marcescens Blechnum chambersii Polyphlebium venosum Fieldia austus	+1+++ + +++ ++ 2 21+2+1+	+++ 21 111 11+++ 2211 21+		
Asplenium bulbiferum Asplenium bulbiferum Atherosperma moschatum	1+1++++ 1+1++++ 1++12+2	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+	1
Nothofagus cunninghamii Rumohra adiantiformis Microsorium diversifolium	3344223++ 3344223++ 1+2+++ + ++21+1+ +	+3111 2 4 3221 + 1+2 ++11+1 + + + + + + + + + + + + + + +	++ ++ ++	+ +
Grammitis billardıeri Cassinia trinerva	+++1+++++++++++++++++++++++++++++++++++	+1+ + 1+++ 1+ ++ 2 + + + +	+ + + + + + + + + + + + + + + + + + +	Q
Blechnum wattsii Hedycarya angustifolia Histiontonis incisa	212 1 2 4 2+2 ++ + + ++	++2112 3+1 2 232 2+(++1 3121231 1 1 3 + 1 +11+1 1++1+	21+ +1+ 1 1+121+ + +2+3+112 11 + +11 +11+++2	121+211+1+ 1+12 1 2 + 11+1+++ 1 + 1+111+±±±±±±±±±±±±±±±±±±±
Australina muelleri Dicksonia antarctica	++1+++ + 455343343	+2121 11+122212 + 4542134331221232+2++	1 + 1 + 1 + 1 11 + 1 11 1++3+22	11 11 11 11 11 11 11 11 11 11 11 11 11
Clemetis aristata	+ + + + + + + + + + + + + +	++ 1 1+ 1 11 + ++ 11+111+ +11+111+++	+I + + +I + + 1111++11111+++++	1 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>
citedite illece Eucelyptus regnans Acacia dealbata	+ + + +	2+22123 + 112 133 43 ++11 21 1 +1123 2++	8 33542 33312 214 +2 2 +2111 1121213	1 * cc accl 1 * *** * c. c **cc 14344 3 3 3123234+1 53 221 4+ 528 2 1132 +11112 1211 3 ++ 124221 21 11111
Olearia argophylla Acacia melanoxylon	+ 18	++1111 312 2 +++ 54 22 1 2+ 2 25 3 2, 22 2	+t +2 1212 12 +2+13+111 31 11 1 +2+13+111 31 11 1	1132 1 +1111 2 2+211 2 2413 312 1 111 1231 +1 +1 +3+3 2+ 1 3 13+ 11122
letrarroema Juncea Coprosma quadrifida Cyathea australis	+ + - 	*L 3 +62 +6	914+ 422601010+ 20 +2++2+11211131+ 1 2123+342 13 +1+11-	<pre>2 2 32421+31+221+13 1 2+114 11 +++11113 1++1+111111+23115121214 1++ ++ ++ 1 2 1++2 2 1 ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ +</pre>
Sambucus gaudichaudiana Urtira incisa	+	+ + + + + + + + + + + + + + + + + + + +		+ + +1+++11 +++++ 1++1++++ + + + + + +
Stellaria flaccida		2 1 1 +	++ +1 21 1	++2 121 +3+++124112 11 +51 + 2

22 1+ + 1 311 111 1+ +112121 11+ +++1 1++111+2++1+ 1+1 + 1+++11++11+2++++111111111+++++11+++++1 11+1+1+11+ + ++ 1 111+++1++1++1++11+1+1+1+1+1+1+1 +11111+ + + 12 1 1 +++ Ħ 2 1 12+ + +112 122+13++++211 11+ 1 5++111+1+++++11+ 111++2 1++1 +2 1 12111 11221 + + + + + + + + 24 + Ħ ઝ 55+ ្ ų 211 + 2 +22+++1222 +12 1+1+ 111 4 +1 1 2 ٢ 11 1 +++++ 50 51 + + ÷ Ŧ ຸດ +2212 12 3 12214+1 121 1244212233 + 2 222 + 1 31 + 22 1 **8** + + οņ 1112 12 + ۵. 12 +11+ ---+ 1++ +1+ +++ 112 မူ 1111 ++ 11+ 111+1 1+ + 1+ដ 55 +2 113 + +1 + 1 = 2 + 1 + 1 = 2.1 + +++ 211e +1 + + + + 1 + 1+11++1111++12 ++1 ++ ស្ដ f Ξ eo. à 11 ++1 1+11 +2+++ 111 22222 + 1 + m 1 311112 n, +1+ é ++ Ξ = ++++ Ŧ 123 ຸດມ + eo ++++ 243 +++1+1+1++++ +++11+11 +10 + 1 1 2122 ++ 1+1 12 +112+++2 1 +22+ +1+1 +1 +1 +1 1 1++1 1 1 2 + 1 1++1 1 1 പ +++ പ + +++ ດມ ດຸມ 2 511 + ∞ + ---60 + + ณ Rubus fruticosus sp. agg. Prostanthera lasianthos Polyscias sambucifolius Geranium potentilloides Eucalyptus cypellocarpa Eucalyptus delegatensis Conocarpus teucrioides Helichrysum dendroideum Poa australis sp. agg. Blechnum cartilagineum Senecio linearifolius Bedfordia arborescens Pteridium esculentum Lepidosperma laterale Lepidosperma elatius Acaena anserinifolia Gnaphalium japonicum ⁺Hypochoeris radicata Lagenifera stipitata Tasmannia lanceolata Hypericum androsaemum Olearia phlogopappa Microlaena stipoides Eucalyptus viminalis Acacia obliquimervia Correa lawrenciana Dianella tasmanica Ranunculus plebeius Oxalis corniculata Eucalyptus obliqua Fomaderris aspera Hydrocotyle hirta Cassinia aculeata Coprosma hirtella Eucalyptus radiata Luzula campestris Prunella vulgaris Eucalyptus rubida Eucalyptus nitens Pimelea axiflora Viola hederacea Cotula filicula Blechnum nudum Goodenia ovata #Rubus vestitus

Table 3. Two-way table of Communities 8 and 9.1-9.3

.....

SUB-COMMUNITY	8.1	8.2	9.1	9.2	9.3
QUADRATS SPECIES	222222222 2333333333333 000000000000 0103385576 6075703469	22222222 333333333333333 000000000 076771477 375121204	1111122201122 00000088890088 0000000088890088 00000000	22222222222222222222222222222222222222	110011113010000100001000010 000980099999999999999
Lepidosperma concavum Kunzea ericoides Eucalyptus globoidea Banksia merginata Gramheae spp. Pimelea humilis	2112 13 2 22125 1 2 22125 1 3 2 3245 1 ++ 3121 ++ 1 1+11	2 + + + + + + + + + + + + + + + + + + +	+ 2 + 2 11 2 2 + 1 1+1+	+ + + + + + + + + + + + + + + + + + +	22 + 23
Hibbertia actularis Eucalyptus consideniana Xanthorrhoea minor Gahnia radula Lomandra filiformis Pteridium esculentum Lomandra longifolia	+ + + + + + + + + + + + + + + + + + +	1++++1 1+++++ 34333442 31 1+ 13 32121 ++11111+1 ++11111+1 2 4234 31 1 + +	1 1 31 2211+231132 2 ++11 2112 1 31221332211 23 1 1111 1++ 1 1112 12+ +1 + + + + + +	1 1 1 1 + 1 + + + + 1 2 222+++133++ 15+ 1 3213+++252513+ 2222+++133++ 112 +1+1 22+++1++ + + + + + + + + + + +	+ 1 ++ 1 ++ 2 115821213131+111+4112 ++ ++ +111+
Drosera peltata Lindsaea linearis Xanthos.a dissecta Epacris impressa Fultenaea gunnii Microlaena stipoides Amorea xibhorlada	+	* + ⁺	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+ + + + + + + + + + + + + + + + + + +	+11+ + + + + 1 + 111+ + 1 + 1 + 1 + 1 +
Leptosperman Juniperinum Ceodenia ovata Billardiera scandens Gonocarpus tetragynus Acacia mucronata Acacia mucronata Rusciyetus radicata Viola hederacea Uiola hederacea Cecalyptus obliquea Eucalyptus oblique		₩ ₩ ₩ ₩	222111 222 2111 222 2111 222 2111 24 2111 24 2111 21 22222 21 2111 2 22222 21 21 4 21 4 22223 22328 221221 22328 221221 22328 221221 22328 221221 222328 221221 222328 221221 222328 221221 222328 221221 222328 221221 222328 221221 221 221221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221 221	1 1.1.1 1.1.1 1.1.1 1.1.1 1 1.1.3 2.1.1 1.1.1 1.1.1 1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 2.1.1 1.1.1 1.1.1 1.1.1 1.1.1 2.1.1 1.1.1 1.1.1 1.1.1 1.1.1 2.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 2.1.1 2.231.2 2.232.422.422 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1	1111 11 1 1 1121 1 1 3 1 1131 1 1 3 1 1131 1 1 + + 11+ 1 + + + 11+ 1 + + + 11+ 1 + + + 111222 2 2411 1 111222 12:11 1 1 11222 12:11 1 1 11221 111 1 + 11222 14:1 + + 11221 11:1 1 1 11221 11:1 111 1 11221 11:1 1 1 1111 11:1 1 1 1111 11:1 1 1 1111 1 1 1 1111 1 1 1 1111 1 1 1 1111 1 1 1 1111 1 1 1 1111 1 1 1 1111 1 1
Cassinia aculeata Lagenifera stipitata	+		+ + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +	1 1 +2 1 + + + + + + + + + + + + + + + +	1++1121+ 122+ +11++ +1+3++2 + ++ + + + + + + + + + + + + + + + +

Eucalvetus cypellocarpa			1++	21	+ 12			+	-	1+1121+1 +11 1	12121 11114	F
Clematis aristata					‡		+	++ +	+	+2 11+++ +11	111 + + 1 + 1 + 1 + 1	1 +
Coprosma quadrifida			+				+	+	Ŧ	11 11+ +1++	+112+22+11+1	
Pomaderris aspera										121+1 + 1++1 +	+1+12+112113	-
Acacia dealbata			+		.+					+111111 + 1	11 12 1+1+1	ŝ
Fultenaea juniperina			+	Ţ	വ		+	1		111 11 2 212	2+111 1 1	ณ
Polyscias sambucifolius					+		+		+	111 + 111 1+	11 + +++	
Hydrocotyle hirta			+	+	+	+	+1	‡	+	+ + + T+++	1 1++++	+
Senecio quadridentatus	+		+	_					÷	+ 11 +	+ +	
Blechnum nudum				-1	.+.				+	+1+ ++ 1+	++1111 ++	-
Gonocarpus teucrioides			1 ++1	+	+			+		1 1111+1+1 1	2++1+111+1++5	-
Cyathea australis			+	+						111+ +1+1+1	+311+111 1	+
Olearia lirata			∓ +	+ 1 +	+11 +	t	+ +	+	. <u>-</u> i	11111+ + 112++	+ 1111111 1	+
Fimelea axiflora									പ	++ 1+ 1	111111111+11	
Platylobíum formosum		л		+ 11					ŭ	2 2 2 2 3 4 4 3 3 2	31 22 1	
Culcita dubia			+				<i>c</i> 0	പ പ	Ţ	221321 2	3 2 12 2+	+
Blechnum cartilagineum								IJ		12 2+	2112 1 2	+
Acacia verticillata					1 22	1	+	+1 12+	+	L+111 1 11	2211 1+++1	
Lepidosperma elatius										+1+ 1+11	1 111+1111	
Gahnia sieberiana				111	=	1		+		11 1+1 11	1 1 11 ++ +	
*Rubus fruticosus sp. agg.										++ 5+ ++ ++	++5++ 1+	-
Frostanthera lasianthos										++ ++ 1+	1212 ++	-1
Acacia melanoxylon			+				‡		न	1	1 + +11 1+	-
Polystichum proliferum										1	1 11 + 21	+
Geranium potentilloides			+						+	1 11	++++11+121	
Stellaria flaccida											+ 1+11	
Acaena anserinifolia	1			+			+			1+	++ ++	+
Oxalis corniculata	+				++			+		+ + +	+++++1111	-
Tetratheca ciliata			+1					++ +	+	+ 1+21 ++1 1	+1 ++4	_
Poa australis sp. agg.			린	+2 12 +	11+12 2	ت ٦		+		11111+	+ +11+ 1	
Dianella revoluta		+ ++		+ _	<u>.</u>			+	.+-			
Cassinia longifolia			н С	1321 1	32 11		+			+ 1 +	λu	T
Burchardia umbellata			+11++	L +1 1+	- +-	+						
Billardiera procumbens			++ ++	1+	-1			+	=			
Thysanotus tuberosus			+1+ +				+		+			
Bauera rubioides				12	ເ ເ ເ	сц 	‡	+1+ 2		113 + 123	+ ಬ	
Eucalyptus sieberi			515	8 +21	ດມ +	с 4	94	വ	<u></u>	+ 11 +31 22		
Eucalyptus polyanthemos				₽.	<u>.</u>							
EUCALYPTUS Dridgeslana	20 20		+	ч		+			_			

SUB-COMMUNITY	9.4	9.5	9.6
	000000000000000000000000000000000000000	220020000000000000000000000000000000000	00000000000000
QUADRATS	522222222527075225522555	725/727787775872587882785782255827588772778772222575	622552525555555
	00000555050000500055000	050000000000005000005000050000500000550000	00500000000000000
SPECIES	11101221524241224420535 78933564388148731896095	4058014243484873444331524301120203154242954221122144 0710676843226692313512485026980781665910933678102374	10111022024410 07795841937248
Tetratheca ciliata	+++++		
Acacia mucronata	+ 42++++		
Pultenaea gunnii	+++++ ++ 1		
Epacris impressa	+ ++++++ 2 ++++++		
Eucalyptus siederi	A 2 5 24	194	
Lomandra longifolia	++++ +++2++ + +	10 ⁻⁴¹ T ++11+++++ +	+
Pimelea humilis	+ ++ + 1 +	+ + ++	· ·
Gahnia radula	++ ++22+313 +2+ + +	+4+2+ 2+1+++++ + 3	
Leptospermum juniperinum	1 + 1 ++ ++	+ + + +	
Lomandra filiformis	+ ++ +++++ 1+ ++++++	+ 2 +1++ + ++2++	
Deyeuxia quadriseta	++++++++ + + ++	*** * ** * ** * ****	
Senecio hispidulus	++ ++++ + ++++	++ + + + ++++ +++	+
Glycine clandestina			* **
Billardiora scandons	*****		т +
Poranthera microphylla	+ ++ + ++ +	+ + +++ +++++ +++ + +11+	
Gonocarpus tetragynus	+++ +++++11++++++ ++	1+++ ++ 1++++ +++ 11 + 1 + 1+ 1+ +++++++	+ ++
Wahlenbergia quadrifida	+++ + + + + + +	+++++++++++++++++++++++++++++++++++++++	++
Poa australis sp. agg.	++ + +++ +2+ + +1 :	3+ 2 2233 4 32+ 1 21 45 32 + 4+1 21 1 1322+	
Veronica calycina	++ + ++ + +++ +	* * * ** *1 **** * ** *** 11 *** 1 **	
Hypochoeris radicata	+++++++++++++++++++++++++++++++++++++++	+ P+ + ++++ +++ + ++++ ++ +++ ++++ +++	+ + +
Coprosma quadritida	1919-990 990999-1+++0010	+ μ + tl +tl+ t +tt lt+ τ2t2 3t+t322t+ t2 τ 22tb 010 - 01 001 - 14 - 1 - 001 121201111120121212 -	++++++
Viola bederarea	1010+000 000000+1+++0010	+++P+++++ +++++++ ++++1+P1++ 1+++11+ +++ + + +	++ ++++++++++
Tetrarrhena juncea	+14+ ++ 2+3 +11121+2	3+1++2 +1 4+ 11 2 +11 3+2 +41 2 + + + +	++++++ 112+
Geranium potentilloides	+ + + + + +	++ 1 + + 1++ +11+1 + 1++ 2+++11++++++ +	+++ ++ ++
Lagenifera stipitata	+++ ++ +++ +++ + ++++	+++ <mark>2</mark> + + 1+1+++ 1 + +++ + 1 + + + + +++ +	+ ++ ++
Clematis aristata	++ +++ ++ ++ 1+++	++1+ +++1 ++2+++++ ++ 1++1+++12++11+++++1++++2++ *	++++ ++++++++++++++++++++++++++++++++++
Acaena anserinifolia	+++ ++ ++++	***** + + *1** ** ** * *** 1+1*** ** **	+ + + + ++ +
*Rubus vestitus	++ ++++++		++++ ++++ 12+
Eucalyptus cypellocarpa	33 22 ++2 4	123 242 5 55 1 +15 223 2 213+ 5 33)	2 +4 24 3
Cassinia aculenta	1 +++ +++++ +	+4 $+4$ $+$ $+$ $+4$ $+$ $+$ $+1++$ $1+2$ $1+$ $+$ $+1$ $2+$	+ +++ +
Hypericum gramineum	+++++ + +++++ + +	+ + + + + + + + +++++++ +1 + + +	+ + +
Eucalyptus obligua	45 +43535 2222355532 23	3438 5 45 32 4 1 + 2	+ 12 5
*Centaurium tenuiflorum	++ + ++ ++	+ + ++ + 1 ++ + +++++ + ++	++ + +
Oxalis corniculata	+ ++ ++ ++	+ + + + +++ ++ ++++ <u>1</u> +1 + + <u>11</u> + ++ ++ +++	+ + + ++ ++
Senecio lautus	++ + ++	++ ++ + + + + + + + + + + + + + + + + +	+ ++
Dichondra repens	+ + + + +	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+ + + +++
Helichrysum dendroideum	+2 1+ +3+		+ 4 +
Hydrocotyle birts	+ +	++ + + +++ +++ 1 + 11 ++ ++2+ +	+++ ++ + ++++
Acaria melanoxylon	+ +	+ + + +2 + + + +2 1+ +21+ 2 5 2+	3+442+3+3+5
Echinopogon ovatus		1 +1+1+ + + + ++++ + + +1+ + +	++++++
Eucalyptus viminalis	4	+ 5 5 55 2 3 24	+443 2
Poa labillardieri		3 + + +4 +++3 + + 3 53++ 1	+ + ++++1 4
Pomaderris aspera		+ +++ +++ 1+++ 23++2 5	+ 1 5+ 51
Stellaria flaccida	+		+ + +1++
Rubus parvifolius	+ + 4		22.2 4
Polystichum proliferum		+ + + + + +2+	+ + + +++ ++
Geranium solanderi	++	++ + + 1 + +++	+ +
Olearia lirata	+++	+ + +2 + + +1 ++ +1 1 + 21 + +11+	
Melaleuca ericifolia	3	+ 1 1 + + 3 3	
Eucalyptus muelleriana	5.3	2 3223+ 2 222 33 31 2 + 33+ 32 +	
Eucalyptus globulus		1 +233 3 31 + 32 3 134 2+ 1	

Table 4. Two-way table of Sub-communities 9.4-9.6

SUB-COMMUNITY	9.7	9.8	9.9
QUADRATS	222222222222222222222222222222222222222	255555555555555555555555555555555555555	222222222222222222222222222222222222222
	121111111211011112221221121223210	2212202200	000000000000000000000000000000000000000
SPECIES	427584477292590595770672050990717 351017938867694271972488904890503	5618716866 4017289645	56665655566982429 3021078989187294
Drosera peltata	1111111111 1		
Gnaphalium japonicum	1 1 111 11111	1	1 1
Gramineae spp.	31 31 111111 11311 1	1	111 1
Banksia serrata	33 13 13 1 1		
Amperea xiphoclada	1 1 1111 1+ 1 3111 1		3
Bossiaea cinerea	11111 1 11 1313313 1	1	11 1
*Holcus lanatus	1 1 1 1 11 11 13 1	11	11 11 13
Leucopogon virgatus	$1 \ 1 \ 1 \ 1 \ 113 \ 1 \ 111111$		1
Opercularia varia	13 1 1 1 1 + 11 1 1 1111111	1	1
Eucalyptus consideniana	3 33 33 33 3 3 3 31 313 3333 3		3
Correa reflexa		1	
Guaphallum Spp.		41111	1 1 1 ¹
		1 1 11	111
Fucelyntus viminelis		1 33333	
Helichrysum scorpinides		3 1 1	B
Lomandra longifolia	3 1 13 12 111 11 1 111111	8 111 31	۲ ۱
Pimelea linifolia	1 1 1 111 11 1 1 11311111	11 111	11111 1
Acrotriche serrulata	1 1 1 1 + 11 11 1 1111 111	1 3111 111	B11 1 1
Hypericum gramineum	1 111 1 11 11111	11111 1	1 1 1
Pterostylis spp.	1111 1 1 1 1 1 11 11111	1 1111111	1 1 3 111
Cassinia aculeata	1111 3 1 1 11 31131	31 11 3	1 111 1 1
Senecio gunnii	11 11 11 1 11 1 113 111	111 11	1111 111 1
Poa australis sp. agg.	3113 13331333113333 333331333333	\$331333333	8133313311311
Epacris impressa	33 11 11 1111 1333333111111313	111 1 1111	111 11 11 3
*Hypochoeris radicata	11 11111111 11+11331111131331113:	1331111111	11111133111 11
Pteridium esculentum	33333333333333323331333 33133333	33313333313	1 13333 3313 331
Leptospermum juniperinum	1111111 3 3 + 31311113 13	331 133	83311 3 133 1 1
Gonocarpus tetragynus		31331113111	111 1 1 331 11 Dooptooon oppon
Cobpic podulo		333 33 3333	0000100000 00000
Lomandra filiformis		12 1 2 111	81 1
Microlaena stipoides		1 111 1	1
Poranthera microphylla	11111111 + 11 1	1 1	1 1
Xanthorrhoea minor	1 1 11 1 13 1	11	13
Billardiera scandens	11 111 1 1	1	1
Pimelea humilis	11 11 111	1	1
Cassinia longifolia	1 3 31	11	11 1
Eucalyptus obliqua	3 31 1 3	13	1 33
Viola hederacea	1 11 1 1 1 1	1111 1	111 1 1
Olearia lirata	1 3 2 1 1 1	1 1	1 3 11
Eucalyptus bridgesiana	3 3 3	13333	1 3
Kunzea ericoides	1 31 3 1 3	3 3	333 133 3
Xanthosia dissecta	111 1 1 1	11 11 1	11 3
Victoria repens	1 1 1 1 + 1	111 1	1 1 111 1
Ponyza bonariensis		1	
Fucelyntus melliedera	3 1 3 11	н з	0.0.00
Eucalyptus nyata			0 0 00
		1	<u>د</u> ب

Table 5. Two-way table of Sub-communities 9.7-9.9

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table
Two-way
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Table

SUB-COMMUNITY	10.1	10.2	10.3
QUADRATS	148228055491,659091291162891,121096999002386296114056498842 9005954710195928227188211490271088554092171021110222222 9006000000000001119592822018521000000000000000000000000000000	27222222222222222222222222222222222222	CVC/SCI2012 CVC
Brachylowa dahhooides Brachylowa dahhooides Bossias hetrophyla Gustis penkus willisia Bustis erista Eucalyotus villisia Eucalyotus villisia Rankia strada Bankia strada Bankia strada Bankia strada Bankia strada Bankia strada Bankia strada Amperoseria uniperinum Gonocarus tetrageria Gonocarus tetrageria Concarte strica Constructiona Const	<pre>* * * * * * * * * * * * * * * * * * *</pre>	1311 + + + 11 3+***11* 1 + + 11 3+***11* 1 + 1 1 3+***11* 2 2 2 2 3+***11* 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 11 1 1 1 1 12 1 1 1 1 13 1 1 1 1 14 1 1 1 1 15 1 1 1 1 16 1 1 1 1 17 1 1 1 1 18 1 1 1 19 <t< th=""><th>$\begin{array}{c} & &$</th></t<>	$ \begin{array}{c} & & & & & & & & & & & & & & & & & & &$

1 11 1 11111 1 11 1 ٦ 1 1 1 111 8 e 111 _ 11 я. Т, -3 1 3 1 1 сu a ŝ + + 1 + + ++ : + Eucalyptus globoldea Eucalyptus bridgesiana Eucalyptus tinerea Eucalyptus polyanthemos Graminea sp. Helichrysum scorpioldes

Table 7. Two-way table of Community 12.

SUB-COMMUNITY	12.1	12.2	12.3	12.4
QUADRATS	222222222222222222222222222222222222222	22222222222222222222222222222222222222	22222222222222222222222222222222222222	22272222222222222222222222222222222222
SPECIES	01100000000101010101010101010101010101	010000010444308996407873 1522200010444308996407873 24012689053642978343543424	9865524001217675557617111757555576767590 988653901069996900991486583000390 389608552400121767643092978310922	00000011000000000000000000000000000000
Dichelachne micrantha	++1 ++++			
Eucalyptus muelleriana	+12122332123+			
Lagenifera gracilis	1+1+++++1+			
Gnaphalium Japonicum	+ + ++ 1+1 1	11111	+	1 11 1
Tricoryne elatior	+ 1+ +++ + + +++	1111	1 + 1 1	
Astroloma humifusum	+1 1+ $+1$ + $+111$	11 1 111		11 1
Xanthorrhoea minor	+ + 12 1+1 1 +1+	11111		
Pimelea humilis	1111+1++1++1++111	1 1 1 111	1	
Bossiaea prostrata	1+ +++++ 1 1	1 1 1	-	1
Acrotriche serrulata	+ ++ + +1	1111 1111 1113	1	111
Kunzea ericoides	1 1 343 +	111 3 3 1331	1 3	1 3 333
Lomandra longifolia	1 32222 1++ 1+31	31 1 1 1 1 1311	B 111	
Microlaena stipoides	1 1+++ 221 +3+1 1+11	1 11 1 11 1 11	331 1 11 33 131333	1 11 1
Lomandra filiformis	2122211+++ 1+ 1 12	111111 1 11 133	11 1 1+11 11 11111	
Poranthera microphylla	++ 1+1+ + + ++ +++1	11111113 1 1111	1111 1111	
Leptospermum juniperinum	1++ 1+	13 1111 11 1311 11	113+ 1	363 1
Gahnia radula	331+12 1 14 3+11	3 11 1 3311 31	31131 3 1 1 1 1	33 33 13 3 3 3 3 3 1 1
Viola hederacea	+ + + + 1 ++ 1 ++	11 11 11 11 1	133 1111	11 11 1 11 3 1

Gonocarpus tetragynus	++ ++ ++ 11 111113311341111 1 1 11 13 1 1 1111
Hypericum gramineum	11++++1 11+ 1 111111 11111 11 1 1 +1 1111 1 +1 1111 1 1 1
*Centaurium tenuiflorum	++111 +++++ 11111 11 11 11 1 + 11 1 1 1 1 11 1
Oxalis corniculata	
Poa australis sp. agg.	1+65+ 5+ 1 21113/13/13232333 323331 33531142133133 3 13313 3133111 1 22 31 3 3111 13331 113311]
*Hypochoeris radicata	++ ++ ++ ++ 1 1311111131331331133113131343+33313313113133331311111111
Fteridium esculentum	2 33331321 5 + + 14 233 33333233333333333 333 315233133 3 3 3 3 333333 3 3 1 3 1255553 3 3233
Eucalyptus radiata	111 +1 23 3 332363131333333 3333 23311 333+3 3333 3 33 33353 333353 3 34 348 3 333533 3331
Dichondra repens	+11 11++++11 11+ 1113 1 11 1 3 31 131113 13 31113111
Eucalyptus bridgesiana	11 1+3 22 +312 3 333 1 3 3 3 3 3 3 3 3 4 13 31 13 3331 1 13 3 111 333 11 13
Gramineae spp.	2 4 11111313131131 \$ 13333 1 13333 1 1 131 13
*Senecio jacobaea	
Hydrocotyle laxiflora	
Eucalyptus viminalis	1 1 1 2 2 3 3 333 3 3 3 1 3 3 5 3 3 3 3 3 3 3 3 3
*Conyza bonariensis	
*Holcus lanatus	11 111 31133 33 331 1 1 333 33+3331133 3133331131332333 3 13 1 11311 333313 131333
Pimelea linifolia	
Lagenifera stipitata	
*Cirsium vulgare	
Senecio gunnii	
Veronica plebeia	
*Rumex acetosella	
Geranium solanderi	
*Stellaria media	31 1 111 33 1111313311313 1 1 1
*Cynosurus echinatus	1 1 1 1 1 113 3 11+11311311311 33 11 34 31
Acacia mearnsii	12 + 1 1 1 1 3 333 3 1 33331
*Briza maxima	1 31 2 13 133 1 1 1
*Plantago lanceolata	1 11 11 +1 111 1
Acaena anserinifolia	+ [11111111+1 1 1 1 1 1 1
*Rubus fruticosus sp. agg.	1 [11111] 1 1
Senecio spp.	+ + 111 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1
Lomandra spp.	+ 1 331 11 33 111 33 111 33
Eucalyptus ovata	+1 1+2 3 3333 1
Melaleuca ericifolia	+ 1+32 22 33 3
Eucalyptus oblique	2 1 3 33 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Epacris impressa	
Drosera peltata	
Cassinia aculeata	
*Centaurium erythraea	+ + 1 1111 111 1 1 1 1
Themeda australis	
Acacia paradoxa	3121 1 3

		~					N	_
SUB-COMMUNITY	13.1	13.2	14.1	14.2	15.1	17.1	17.	18.
QUADRATS	22	222	222222	555555555555555555555555555555555555555	2222222	222222	22222	2 22
	00	944 000	000000	444444444447444 00000000000000000000000	0000000	0000222	25528	444
SPECIES	33	833 467	563727 230877	11120222116130	4666633	1000002	35511 99765	444
>	-		Lovon	102 10302010015	DOTUTUL	4.02 1.076	05102	105
Spirodela oligorrhiza	+2					+		
Triglochin procera	+1	435						
Typha Spp.		63 500						
Potamogeton Spp.		53						
Lepidosperma laterale	\vdash	-	51 +		3	+4	5	
Empodisma minus Esboonus brouifolius			5111+3 5 0 /	81222222			++ 1	
Epacris impressa			11+	42222222221 1 1				
Sprengelia incarnata			21	1 22+ + 3			+	35
Leptocarpus tenax			32 54	22 4343333+1 1				31
Xanthorrhoea minor	-		11141	+ +2 22 ++ 2	E_1		++	23
Lepidosperma filiforme			1	21222222				
Schoenus tenuissimus				2432242 11				
Lindsaea linearis Patersonia fragilis			+	21221 1212 1				
Casuarina paludosa			+	44+ + + 1+++				
Casuarina pusilla				32++ 11+				
Dampiera stricta				21121211 +				
Dillwynia glaberrima	-			22 1 1112 4 2221223223 + 1				
Xanthornhoea resinosa				+3454555 1 5				
Leptospermum myrsinoides				2 221322 1				
Burchardia umbellata Hibbertia procumbens				+++++++1				
Epacris microphylla				1 22+++1 2				2
Eucalyptus viminalis				3 3+ +33+4 3				+
Lepidosperma longitudinale Villarcia repiformic			5+	2 21+1 1	3555545			
Carex appressa	+			1 . 1	100	++++++	a	1
Cyperus lucidus						++5++		
Hydrocotyle tripartita						++++		
Helichrysum dendroideum						+ +++++ +++ + +	+	
Tetrarrhena juncea			+2		+	+ +++++	+ 1	
Melaleuca squarrosa			4435 5	4+33-22		3 +5 5	45534	555
Blechnum minus	-	-	9131 3	34543333334122	1	+ 52+	+1 2	323
¥Hypochoeris radicata			+	11 +	1	+ + +	++++	
Gnaphalium involucratum						+ ++++	++ +	
Foa tenera		5				+ ++ +	+1+	
Eucalyptus ovata			3			232	41 1	
*Rubus vestitus						+ + +	+ ++	
Viola hederacea				2		+ + +	11+	
Juncus planifolius			1+	1 +1	1	+ +	+++++	
Gonocarpus tetragynus			+ +	1 2 11 111		+	++++	
Schoenus maschalinus						+	+ ++	
*Sonchus oleraceus						+	++	
Hypericum japonicum			+	+			+++ +	
Hydrocotyle sibthorpioides							+++ 1	
Baumea tetragona Gleichenia dicarna			11		+		2152	
*Solanum nigrum			Ŧ			+	+11+ +++	
Leptospermum lanigerum							4333	
Eucalyptus muelleriana			+					
Lucalyptus globoldea			+					

Table 8. Two-way table of Communities 13, 14, 15, 17 and 18.

		io illy able of	Commu		1	, T	20	1 21.	+	+	·····	
	-						5	0	4	6		
SUB-COMMUNITY	<u>6</u>	20.1			1		x	<u>o</u>	9.9	5	16.6	0
OLIADDATE						ſ	╀	}		f		
QUADRATS	155	222222222222222222222222222222222222222	2222222	122	555555	228	222	5555555	222222	228	555555555	55555
	44	00000010100000	1888774	1888	88888	844	4ње	000000	8/447	488	44744444	47777
	55	5555510500760	5667754	101		do.		0000000	C744C		100000000	00000
SPECIES	67	15102010790623	33542048	1098	78254	99:	165	6431251	B1459	09	28508610	35463
				ļ		1	1_	ļ				
Avicennia marina	55	+		1		1		L	L	1		
Plantago coronopus		+11+	12 -	۲								
Samalus popons		3222112 1						1				
Sclepostegia aphyccula			- 44						+ 2	1+1	+	
Juncus kraussij			1									
Distichlis distichophylla		512+ 3 3 11	3231						T	1.		
Disphyma clavellatum		1 ++1 2 3	+ +325						+321+	1		
Sarcocornia guingueflora	ļ	43444422444544	144 53]					I'OLI'			
Carpobrotus rossii				++	<u> </u>	+	+-			+		
Gonocarpus teucrioides				+1								
Hibbertia sericea				11								
Lepidosperma concavum				221								
Leucopogon parviflorus				111								
Astroloma humifusum				++								
Lomandra longifolia				5+	21						+	1+
Imperata cylindrica				2+	+1	-	-					
Banksia integritolia				511	221223					+		
Aira carvorbyllos				11.1.+	12211.	-			1	1		
Ptoridium esculentum				EE.	7 16 - 99 -]			- TT 1	Ť	- 1	
Isolepis nodosa		3 +2	1 3	221	11111	1			21		T	
Senecio lautus		1	2 1 21	111	11				+ 2121		+2	
Rhagodia candolleana		-		a	+ 112				+2312		-	
Galium propinguum					+1 1-	+						+
Clematis microphylla				++	1 + 1				2			
*Conyza bonariensis				+	+2 + 3	4	1	+	+			
Lepidosperma gladiatum				1	553553							
Lagenifera stipitata					+ +1+				+	+	+	
Monotoca elliptica					+ 1				++			
Poa australis sp. agg.			+		122+ 3	1	3		1			+ 3+
Helichrysum rosmarinifolium						25			_		1	
Lilaeopsis polyantha						11			3			
lsolepis marginata											1.2	
Loptococyle spp.						20					1+3	
Farey fascicularis							1	+ +				1
Leptocarpus tenax						+2					213 4223	
*Centaurium tenuiflorum			++	1	+	++		+	+ +	+	+ ++ 11	
Phragmites australis			+			11	13	254	+		2 1	
Alternanthera denticulata								+1 +				
Calystegia sepium								2+3 +				
Carex gaudichaudiana								2 ++				
*Cyperus eragrostis							·	++ +++				
Lycopus australis								3 ++ +				
*Myosotis laxa								1+ +1+				
*Korippa nasturtiumaquaticum							ľ	+ + ++				
FOLYGONUM MINUS								+++ +++				
Numer constonerators						_	-					

Table 0

Acacia longifolia		-			1			1	\square			2+32+	Т	T		
Acacia verticillata						+			2	3		1+32+		2	5 +	2++
Hydrocotyle sibthorpioides								+		+			++	•		
Baumea juncea	1							1					23	1		
Mentha diemenica								-	1 1	+			++	•		
Melaleuca ericifolia	Γ	+	1			3+		+	+55	3385	554	455555	52	5+	55 3	12242+
Centella cordifolia												á	<u>i</u> ++	12+	+221	21++++
*Hypochoeris radicata							+	+		11	++	+ +		+ +	+ 1+	+ + +++
Microlaena stipoides								+						2 +	- 22	1221
Gonocarpus tetragynus	[+							ł	+121	1 +112
Casuarina paludosa												ĺ			44	4 + 2
Leptocarpus brownii			ć	2					2			Į	12	1	3 2	
Lobelia alata					+			1	1			+	12	11+	111	
Gahnia trifida						23 4	Н					21	21	2+	5 53	B
Hemarthria uncínata														11+	- 2	++
Goodenia humilis							1		2				+	2	2322	22 + 23
Baumea acuta														2 3	14218	
Schoenus tesquorum														3	445	a
Lepidosperma longitudinale									22					5	43 3	
Gonocarpus micranthus									1					+	111	1
Melaleuca squarrosa							İ.		33		+			+4	34	
Selaginella uliginosa														+1	1211	
Eucalyptus viminalis							1	2 (3				+	22	+
Empodisma minus															1222	
Epacris impressa															18	9 +
Epacris microphylla										1				ľ	2 4	
Schoenus brevifolius															38	
Lindsaea linearis															16	+ +
Lepidosperma filiforme														+	1	a
Bossiaea prostrata									\mathbf{T}						12	+++1
Eucalyptus ovata																3232
Stipa rudis															E	2143
Senecio glomeratus						+						+				+++
Acacia stricta								+1								++++
Gahnia radula																3411
Deyeuxia quadriseta												+		+		++ +
Schoenus apogon																++ 1
Danthonia laevis																+22
Drosera peltata															+	+++
																1

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ALPINE WET HEATH : SUB-COMMUNITY SCG 1.1

CHARACTER SPECIES	XF REQ	C/A	CHARACTER SPECIES	2F REQ	C/A	CHARACTER SPECIES	ZE RE D	<u> </u>
Astelia alpina	100	1	Gentianella diemensis	80	+	Lycopodium fastigiatum	60	+
Empodisma minus	100	1	Craspedia sp. 'O'	80	+	lsolepis aucklandica	60	- i
Epacris paludosa	100	1	Euphrasia gibbsiae	80	1	Callistemon sieheri	60	1
Olearia algida	100	1	Thelymitra venosa	80	1	Carex appressa	60	1
Richea continentis	100	1	Poa hiemata	60	+	Epilobium gunnianum	60	-
Sphagnum spp.	100	5	Asperula gunnii	60	+	Leptospermum grandifolium	60	
Baeckea utilis	80	+	Catpha nivicola	60	1	Ranunculus collinus	60	
Blechnum pennamarina	80	+	Hydrocotyle algıda	60	+		00	

NO. OF SITES: 5

STRUCTURE: Closed-heath

DISTRIBUTION: Scattered throughout the Baw Baw Plateau.

ENVIRONMENT: Cool and usually waterlogged depressions on snowfields of the high country. The soil is generally very organic, most of which is dead and dying <u>Sphagnum</u> spp.

ALTITUDE: Mean = 1398m, Highest = 1480m, Lowest = 1310m

MEAN FLORISTIC RICHNESS: 26 species per site MEAN WEED COMPOSITION: 0% of species, 0% of cover

NOTES: The Baw Baw Flateau is one of the few Victorian alpine regions which are not subject to cattle grazing. As such it provides an opportunity for comparison with important alpine grazing lands such as the Bogong High Flains. If, as is often suggested, cattle severely damage the Wet Heath, then it is probable that this can be recognised in a change in floristics. From a comparison of the floristics of SCG 1.1 with that of sub-community 7A of McDougall (1982), however, it is difficult to determine whether the differences between these sub-communities can be attributed to the different environments in which they are found or their different grazing regimes.



ALPINE HEATH : SUB-COMMUNITY SCG 2.1

CHARACTER SPECIES	ZFREQ	C/A	CHARACTER SPECIES	2F REQ	C/A	CHARACTER SPECIES	XF REQ	C/A
*Cerastium fontanum	100	+	Luzula australasica	75	1	*Acetosella vulgaris	75	+
Hydrocotyle algıda	100	1	Carex breviculmis	75	1	Viola hederacea	75	1
*Hypochoeris radicata	100	1	Olearia phlogopappa	75	1	Poa hiemata	75	1
Oreomyrrhis eriopoda	100	1	Orites lancifolia	75	+			
Senecio gunnii	100	+	*Poa pratensis	75	1			

Open-heath

STRUCTURE:

NO. OF SITES:

OISTRIBUTION: Scattered throughout the Baw Baw Plateau.

ENVIRONMENT: Shallow, rocky soils on the edges of the depressions which support Alpine Wet Heath and usually adjacent to the Snow Gum Woodlands.

ALTITUDE: Mean = 1347m, Highest = 1380m, Lowest = 1320m

MEAN FLORISTIC RICHNESS: 23 species per site

4

MEAN WEED COMPOSITION: 19% of species, 18% of cover

NOTES: A number of the prominent species of this sub-community (<u>Olearia phlogopappa</u>, <u>Hydrocotyle</u> <u>algida</u>, <u>Pultenaea muelleri</u>) are also components of the Snow Gum Woodlands of the Baw Baw Plateau and are common in other subalpine regions. Conversely the common shrubs of other alpine heath regions (e.g. <u>Grevillea australis</u>, <u>Kunzea</u> <u>muelleri</u>, <u>Hovea [Jongifolia</u>] are not present in SCG 2.1. Consequently is it perhaps more reasonable to consider SCG 2.1 as a subalpine vegetation which lacks a tree canopy rather than a true alpine heath. SNOW GUM WOODLAND : SUB-COMMUNITY SCG 3.1

CHARACTER SPECIES	XF REQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	ZF RE O	C/A
Eucalyptus pauciflora	100	4	Poa labillardieri	80	3	Tasmannia xerophila	60	2
Olearia phlogopappa	100	2	Nothofagus cunninghamii	60	2	Hydrocotyle algida	60	1
Pultenaea muelleri	100	1	Polystichum proliferum	60	1	Stylidium graminifolium	60	2
Viola hederacea	100	2	Semecio linearifolius	60	+	Trochocarpa clarkei	60	1
Gonocarpus montanus	80	1	Uncinia compacta	60	1			

NO. OF SITES: STRUCTURE: Low open-forest 7

OISTRIBUTION: Scattered on slopes both on and around the Baw Baw Plateau.

ENVIRONMENT: Exposed slopes and ridges which surround the waterlogged depressions supporting Alpine Wet Heath. Soils are shallow and rocky, temperatures are generally low, snowfalls are often heavy in winter.

Mean = 1364m, Highest = 1400m, Lowest = 1250m ALTITUDE:

MEAN FLORISTIC RICHNESS: 21 species per site MEAN WEED COMPOSITION: 1% of species, 0% of cover

NOTES: Although there are floristic affinities between the Snow Gum Woodlands of the Baw Baw Plateau and those of other Victorian subalpine regions there are some significant and interesting differences. For example, the pea <u>Pultenaea muelleri</u> is one of the dominant understorey shrubs in SCG 3.1 but is common nowhere else in the subalps. In other Snow Gum Woodlands further east <u>Orylobium alpestre</u> or <u>F. juniperina</u> are the dominant understorey peas. The scrambling shrub, <u>Wittsteinia vacciniacea</u>, a species which is endemic to the Plateau and nearby regions, is also common in SCG 3.1.



SUBALPINE RIPARIAN SCRUB : SUB-COMMUNITY SCG 4.1

CHARACTER SPECIES	%F RE D	C/A	CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	ZF RE D	C/A
Leucopogon maccraei	100	2	Geranium potentilloides	71	1	Carex appressa	57	5
Oianella tasmanıca	100	1	Nothofagus cunninghamii	71	1	Oxalis magellanica	57	1
Olearia phlogopappa	100	1	Coprosma hirtella	71	1	Leucopogon gelidus	57	1
Leptospermum grandifolium	86	1	Hydrocotyle algıda	71	1	Cotula filicula	57	1
Polystichum proliferum	86	1	Wittsteinia vacciniacea	71	1	Tas∎annia xerophila	57	1
Polyscias sambucifolius	86	1	Stylidium graminifolium	71	1	Luzula campestris	57	1
Poa australis spp. agg.	86	1	Gabmia sieberiana	57	+	Oreomyrrhis eriopoda	57	1
Acaena anserinifolia	71	1	Ranunculus piebeius	57	1	Trochocarpa clarkei	57	1
Coprosma nitida	71	1	Acacia dealbata	57	1	Viola hederacea	57	÷

NO. OF SITES: 5

STRUCTURE: Closed-scrub

OISTRIBUTION: Scattered in high country between Baw Baw Plateau and Matlock.

ENVIRONMENT: Gullies and watercourses of the subalps.

ALTITUDE: Mean = 1078m, Highest = 1050m, Lowest = 950m

MEAN FLORISTIC RICHNESS: 43 species per site

MEAN WEED COMPOSITION: 5% of species, 5% of cover

NOTES: An unusual vegetation where <u>Nothofagus cunninghamii</u>, usually a large tree of protected montane gullies, grows as a bushy shrub in dense thickets (up to 10m high) with <u>Leptospermum grandifolum</u>. Aithough these **two** species are from distinctly different families, in this environment they are physiognomically similar, and together dominate the vegetation.

MONTANE SCLEROPHYLL WOODLAND : SUB-COMMUNITY SCG 5.1

CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	21 REQ	C/A	CHARACTER SHECLES	XF KE (J	L/A
Cassinia aculeata	100	1	Senecio linearifolius	78	1	Eucalyptus dives	67	1
Oianella tasmanica	100	1	Stylidium graminifolium	78	1	Gnaphalium japonicum	67	+
Eucalyptus radiata	100	1	Tetrarrhema jumcea	78	5	*Hypochoeris radicata	67	+
Poa australis spp. agg.	100	5	Clematis arıstata	78	+	Viola hederacea	67	1
Pteridium esculentum	100	1	Lagenifera stipitata	78	1	Stellaria pungens	67	1
Acacia mucronata	89	1	Gonocarpus tetragynus	78	1	Asperula pusilla	56	+
Acaena anserinifolia	89	1	Lomandra longifolia	78	1	Hydrocotyle algida	56	+
Geranium potentilloides	89	1	Senecio quadridentatus	78	+	Pomaderris aspera	56	1
Polystichum proliferum	89	1	Polyscias sambucifolius	78	+	*Rubus fruticosus spp. agg.	56	+
Acacia dealbata	89	1	Pultenaea jumiperina	67	1	Epacris impressa	56	2
Oaviesia ulicifolia	78	1	Oxalis corniculata	67	+	Oeyeuxia rodwayi	56	1
Eucalyptus cypellocarpa	78	1	Acacia melanoxylon	67	1	Eucalyptus viminalis	56	1
Luzula campestris	78	+	Chiloglottis gunnii	67	+			
Rubus parvifolius	78	1	Coprosma quadrifida	67	1			
NO. OF SITES: 6			STRUCTURE: OI	pen-forest	to Lo	w open-forest		

Mountain slopes north of the Baw Baw Plateau. OISTRIBUTION:

High altitude, well-drained, often rocky soils. ENVIRONMENT:

Mean = 895m, Highest = 1050m, Lowest = 760m ALTITUDE:

MEAN WEED COMPOSITION: 6% of species, 3% of cover MEAN FLORISTIC RICHNESS: 51 species per site

NOTES: SCG 5.1 and SCG 5.2 are the two most floristically rich sub-communities of the study area. SCB 5.1 occurs in slightly less exposed hillsides, and as a result supports some mesophytic species which are not characteristic of SCG 5.2 (e.g. <u>Polystichum proliferum</u>, <u>Acacia melanoxylon</u>, <u>Clematis aristata</u>).



MONTANE SCLEROPHYLL WOODLAND : SUB-COMMUNITY SCG 5.2

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	%FRE Q	C/A
Acacia mucronata	100	1	Poa australis spp. agg.	100	1	Persoonia confertiflora	83	1
Daviesia ulicifolia	100	2	Tetratheca ciliata	100	1	Dianella tasmanica	67	1
Dianella revoluta	100	1	Eucalyptus cypellocarpa	83	1	Cassytha melantha	67	1
Epacris impressa	100	2	Monotoca scoparia	83	5	Dillwynia retorta	67	2
Eucalyptus dives	100	2	Fteridium esculentum	83	+			
Gonocarpus tetragynus	100	1	Stylidium graminifolium	83	1			

NO. OF SITES: 10

STRUCTURE: Open-forest to Low open-forest

DISTRIBUTION: Mountain slopes north of the Baw Baw Plateau.

ENVIRONMENT: High altitude, well-drained, often rocky soils on exposed ridges.

Mean = 808m, Highest = 1050m, Lowest = 450m ALT1TUDE:

MEAN WEED COMPOSITION: 5% of species, 3% of cover MEAN FLORISTIC RICHNESS: 54 species per site

NOTES: SCG 5.2 is, floristically, the richest sub-community in the study area and, by virtue of its wide range of flowering species, is one of the most attractive. The exposed and dry nature of the environment in which it is found means that many of the mesophytic species common in SCG 5.1 are replaced by small-leafed, sclerophyllous species in SCG 5.2 (e.g. <u>Monotoca</u> <u>scoparia</u>, <u>Dillwynia retorta</u>).

COOL TEMPERATE RAINFOREST : SUB-COMMUNITY SCG 6.1

CHARACTER SPECIES	%F REQ	C./A	CHARACTER SPECIES	%F RE Q	¢/A	CHARACTER SPECIES	%F RE Q	C/A
Asplenium bulbiferum	100	+	Microsorium diversifolium	89	1	8lechnum wattsii	67	1
Oicksomia antarctica	100	4	Polystichum proliferum	78	1	Hedycarya angustifolia	67	1
Nothofagus cunninghamii	100	5	Atherosperma moschatum	78	1	Cyathea marcescens	56	+
Fieldia australis	89	1	Australina muelleri	78	+	Cassinia trinerva	56	+
Grammitis billardieri	8 9	+	Rumohra adiantiformis	78	1	Cyathea cunninghamii	56	+
NO DE STIES: 09			STRUCTURE: Close	d~fores	+			
			01001010101010101010010010					

OISTRIBUTION: Central Strzelecki Ranges.

ENVIRONMENT: Wet, protected gullies at high elevations of the ranges.

ALTITUDE: Mean = 504m, Highest = 610m, Lowest = 410m

MEAN FLORISTIC RICHNESS: 19 species per site MEAN WEED COMPOSITION: 0% of species, 0% of cover

NOTES: This sub-community is floristically similar to <u>Nothofagus</u>-dominated cool temperate rainforest in other parts of the state, with a few notable exceptions. One is <u>Fieldia australis</u>, the only Victorian epiphytic dicotvledon, a species restricted to Gippsland and uncommon in <u>Nothofagus</u>-dominated cool temperate rainforest outside the Strzelecki Ranges. The others are <u>Cysthea</u> <u>cunninghami</u> and <u>C. marcescens</u>, both tree ferns of restricted distribution and absent from the extensive cool temperate rainforest of the central highlands. The latter species is possibly a hybrid between <u>C. cunninghami</u> and <u>C. australis</u> as it only grows in areas where the two species occur and is apparently sterile.



COOL TEMPERATE RAINFOREST : SUB-COMMUNITY SCG 6.2

CHARACTER SPECIES	%FRE Q	£/A	CHARACTER SPECIES	%FRED	C/A	CHARACTER SPECIES	%F REQ	C/A
Oicksonia antarctica	100	S	8lechnum wattsii	76	1	Histiopteris incisa	62	+
Clematis aristata	95	1	Hedycarya angustifolia	71	1	Nothofagus cunninghamii	62	1
Cyathea australis	86	S	Microsorium diversifolium	71	+	Acacia melanoxylon	57	2
Polystichum proliferum	81	1	Grammitis billardieri	67	+	Asplenium bulbiferum	57	1
Eucalyptus regnans	81	S	Olearia argophylla	67	1	Tetrarrhena juncea	52	2
Acacia dealbata	76	1	Hydrocotyle hirta	62	+	Rumohra adiantiformis	52	1
Australına muelleri	76	1	Coprosma quadrifida	62	1			-

NO. OF SITES: 21

STRUCTURE: Closed-forest to Tall open-forest

OISTRIBUTION: Scattered through the Strzelecki Ranges and around southern parts of the Central Highlands near the Saw Saw Plateau.

ENVIRONMENT: Gullies and protected slopes in wet, mountainous areas.

ALTITUDE: Mean = 506m. Highest = 1150m, Lowest = 150m

MEAN FLORISTIC RICHNESS: 31 species per site

MEAN WEED COMPOSITION: 3% of species, 2% of cover

NOTES: This sub-community represents an ecotone between the true cool temperate rainforest of deep, protected gullies (SCG 6.1) and wet sclerophyll forest of mountain slopes (SCG 7.1). Accordingly, it occupies an environment intermediate between the two and supports species which are characteristic of both.

WET SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 7.1

CHARACTER SPECIES	2F RE Q	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	ZFREQ	C/A
Clematis aristata	91	1	Geranium potentilloides	67	1	Histiopteris incisa	55	+
Coprosma guadrifida	88	1	Acaena anserinifolia	67	+	Stellaria flaccida	53	1
Polystichum proliferum	81	1	Pomaderris aspera	66	5	Australina muelleri	52	1
Pteridium esculentum	81	+	Dicksonia antarctica	64	1	Lepidosperma elatius	43	1
Tetrarrhena juncea	81	1	Cassinia aculeata	62	1	Hedycarya angustifolia	43	1
Hydrocotyle birta	78	+	Prostanthera lasianthos	62	1	*Rubus fruticosus spp. agg.	40	1
Vinla bederacea	76	1	Olearia lirata	62	1	Blechnum wattsii	38	1
Evathea australis	76	1	Senecio linearifolius	59	1	Prunella vulgaris	36	+
Acacia dealbata	74	1	Olearia argophylla	59	1	Correa lawrenciana	36	1
Furalystus regnans	71	2	Olearia phlogopappa	57	1	*Hypochoeris radicata	36	+
Acacia melanoxylon	69	1	Sambucus gaudichaudiana	57	+			
ND OF STIFS: 58			STRUCTURE: Tal	l open-fo	prest	· · · · · · · · · · · · · · · · · · ·		

Scattered throughout the Strzelecki Ranges and southern parts of the Central Highlands. OISTRIBUTION:

Deep, loamy soils (kraznozems) on wet, highland slopes. ENVIRONHENT:

Hean = 487m, Highest = 1000m, Lowest = 110m ALTITUDE:

MEAN FLORISTIC RICHNESS: 34 species per site

MEAN WEED COMPOSITION: 6% of species, 4% of cover

NOTES: This sub-community, which is dominated by <u>Eucalyptus regnans</u> (Hountain Ash), is much less common in the Strzelecki Ranges than it was originally. This is due to an intensive clearing program by the early settlers. Clearing, timber production and the devastating 1939 fires (which burnt much of the forests in the Central Highlands) have meant that there are few mature stands of this type of forest in the study area.



DRY SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 8.1

CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE Q	<u>C/A</u>
Pimelea humilis	80	1	Kunzea ericoides	70	5	Eucalyptus globoidea	60	3
Pteridium esculentum	80	3	Gramineae spp.	70	1	Lepidosperma concavum	60	1
NO. OF SITES: 10			STRUCTURE :	Open-forest				
BISTRIBUTION: Scattered	in the	Holey	Plains area.					
ENVIRONMENT: Loamy sol	ls on sl	opes	near watercourses.					
ALTITUDE: Mean = 12	2m, Hıg⊦	iest :	= 150m, Lowest = 80m					
HEAN FLORISTIC RICHNESS:	14 spe	c105	per site	MEAN WEED CO	MPOSI	TION: 2% of species,	1% of cov	er

NOTES: The low floristic richness and the dense swards of <u>Pteridium esculentum</u> and <u>Gahnia</u> <u>radula</u> which characterise SCG 8.1 suggest a history of disturbance. SCG 8.1 is the only sub-community in the study area which has <u>Eucalyptus globoidea</u> and <u>Leptospermum</u> <u>phylicoides</u> as character species.

NO. OF SITES:

CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	2F REQ	C/A	CHARACTER SPECIES	2F RE Q	C/A
Eucalyptus consideniana	100	3	Gahmia radula	78	5	Pimelea humilis	67	+
Lomandra filiformis	100	1	Monotoca scoparia	67	1	Gramineae spp.	67	1
Pteridium esculentum	78	2	Hibbertia acicularis	67	+			
			CTRUCTURE :	Daga-foract				
ND. DF SITES: 9			SINULIUNE.	DPen-Torest				

DISTRIBUTION: Scattered around Holey Flains.

ENVIRDNMENT: Sandy-loam soils on inland plains.

ALTITUDE: Mean = 126m, Highest = 190m, Lowest = 90m

MEAN FLDRISTIC RICHNESS: 15 species per site

MEAN WEED CDMFDSITION: 0% of species, 0% of cover

NDTES: The low floristic richness and the dense swards of <u>Pteridium esculentum</u> and <u>Gahnia radula</u> in SCG 8.2 suggest a history of disturbance. If this is the case then it is probable that many of the species that have been lost are those which are characteristic of SCG 9.1, SCG 10.2 or SCG 10.3. These sub-communities are the only ones in the study area in which <u>Eucalyptus consideniana</u> is a character species and which support the other character species of SCG 8.2.



DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.1

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE D	C/A
Acacia mucronata	100	1	Burchardia umbellata	80	1	Lindsaea linearis	60	1
Gonocarpus tetragymus	93	1	Drosera peltata	67	+	Viola hederacea	60	1
Fultenaea gunnii	93	1	Eucalyptus obliqua	67	1	Cassinia aculeata	60	+
Tetrarrhema juncea	93	1	Goodenia ovata	67	1	Amperea xiphoclada	53	1
Epacris impressa	93	1	Poa australis spp. agg.	67	1	Diamella revoluta	53	1
Gahmia radula	87	2	Fteridium esculentum	67	1	Billardiera scandens	53	+
Lomandra filiformis	87	1	Xanthorrhoea minor	67	1	Cassinia longifolia	53	1
Eucalyptus consideniana	87	1	*Hypochoeris radicata	67	+			
Leptospermum juniperinum	80	1	Lomandra longifolia	60	+			

ND. DE SITES: 14

STRUCTURE: Open-forest

DISTRIBUTION: Scattered throughout the southern parts of the Central Highlands, with two isolated occurrences in the Strzelecki Ranges.

ENVIRONMENT: Sandy-loam soils on well-drained sites in undulating country, often on morthern or morth-westerly slopes.

ALTITUDE: Mean = 265m, Highest = 400m, Lowest = 140m

MEAN FLDRISTIC RICHNESS: 42 species per site MEAN WEFD COMPOSITION: 3% of species, 1% of cover

NDTES: The understorey of SCG 9.1 is the most sclerophyllous of all the Damp Sclerophyll Forest sub-communities in the study area. The presence of <u>E. consideniana</u> and the preponderance of small-leafed shrubs demonstrate a floristic affinity with the <u>Leptospermum myrsinoides</u> Heath sub-communities. DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.2

CHARACTER SPECIES	ZFREQ	C/A	CHARACTER SPECIES	XF RE O	C/A	CHARACTER SPECIES	20- KE 0	E/A
Gonocarpus tetragynus	92	+	Eucalyptus radiata	69	5	Viola hederacea	64	+
Epacris impressa	83	+	Leptospermum juniperinum	67	1	*Hypochoeris radicata	58	+
Gahnia radula	83	5	Lomandra filiformis	67	1	Cassinia aculeata	47	+
Eucalyptus obligua	81	2	Lomandra longifolia	67	+	Amperea xiphoclada	47	1
Pteridium esculentum	78	2	Acacia mucronata	64	1	Microlaema stipoides	44	+
Tetrarrhena juncea	72	5	Billardiera scandens	64	+			
NO. OF SITES: 36	_		STRUCTURE: Ope	n-forest				

OISTRIBUTION: Scattered through the foothills of the Central Highlands and the Strzelecki Ranges.

ENVIRONMENT: Sandy-loam soils on well-drained sites in undulating country.

ALTITUDE: Hean = 141m, Highest = 400m, Lowest = 5m

MEAN FLORISTIC RICHNESS: 27 species per site

MEAN WEED COMPOSITION: 4% of species, 2% of cover

NOTES: The principal difference between SCG 9.1 and SCG 9.2 is the presence of $E_{...}$ consideniana in the former and the lower mean species richness of the latter. One feature of both sub-communities, although more pronounced in SCG 9.2, is the occasional dense stands of $E_{...}$ suberi. This tree species is natural to the area, and after severe disturbance, such as wildfires and clear-felling, often becomes dominant over a floristically poor understorey.



DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.3

CHARACTER SPECIES	ZE RE D	C/A	CHARACTER SPECIES	XF REQ	C/A	CHARACTER SPECIES	%FREQ	C/A
Eucalyntus obligua	100	1	Coprosma guadrifida	79	1	Gahnia sieberiana	54	1
	96	î	Cvathea australis	75	1	Polyscias sambucifolius	54	1
Tetranshona waraa	96	â	Acaria mucronata	71	1	Culcita dubia	54	1
Viela kadapasaa	96	1	Acacia verticillata	71	1	Hydrocotyle hirta	54	+
Viola nederacea	20	1	Acaria dealhata	68	1	*Hypochoeris radicata	54	+
Eucalyptus cypellocarpa	00	+	Fucalitation and at a	68	1	Prostanthera lasianthos	50	1
Gonocarpus teucrioides	00	1	Eultonana unimerina	64	1	Tetratheca ciliata	50	1
Pomaderris aspera	00	1	Lonidocronal alatius	64	1	*Rubus fruticosus spp. agg.	50	1
Cassinia aculeata	00	1	Cipalas aviálars	64	î	Oralis considuata	46	+
Goodenia ovata	86	±	Fimeles attrices	£1	ŝ	Ceranum notentilloides	54	1
Olearia lirata	86	1	Platylobium tormosom	C1	-	Geranium poventi indiaco		
Clematis aristata	82	1	Slechnum nudum	61	T			

NO. OF SITES: 28

STRUCTURE: Open-forest

DISTRIBUTION: Scattered through the Central Highlands, with two sites in the Strzelecki Ranges near Oarlimurla.

ENVIRONMENT: Well-drained, loamy soils on moist and sheltered hillsides.

ALTITUDE: Mean = 331m, Highest = 700m, Lowest = 120m

MEAN FLORISTIC RICHNESS: 43 species per site

MEAN WEED COMPOSITION: 3% of species, 2% of cover

NOTES: As many of the Wet Sclerophyll Forests of the study area have been cleared or were burnt in the 1939 bushfires (and are presently immmature) the Oamp Sclerophyll Forests of the high country have become the most important sources of timber in the south and central Gippsland region. Often, as a response to logging and fuel-reduction burns, the understorey of SCG 9.3 becomes dominated by one or two opportunistic plant species (e.g. <u>Platylobium formosum</u>, Culcita duba, <u>Tetrarthena juncea</u>). DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.4

CHARACTER SPECIES	ZEREQ	C/A	CHARACTER SPECIES	ZFREQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A
Pteridium esculentum	96	1	Cassinia aculeata	70	+	Poa australis spp. agg.	56	1
Viola bederarea	89	+	Microlaena stipoides	70	+	Lomandra longifolia	56	1
Fucalyptus obligua	85	3	Lomandra filiformis	70	+	Gahmia radula	56	1
Conocarpus tetragynus	85	+	Billardiera scandens	67	+	Hypericum gramineum	56	+
Fucalyptus radiata	81	2	Clematis aristata	63	+	Epacris impressa	52	+
Tetratthena juncea	74	1	Senecio hispidulus	63	+	Goodenia ovata	48	+
*Hypochoeris radicata	74	+	Deyeuxia quadriseta	63	+			
Lagenifera stipitata	74	1	Acaena anserinifolia	59	+			

ND. OF SITES: 26

STRUCTURE: Open-forest

DISTRIBUTION: Concentrated around the Driffield area, with scattered occurrences south of the Strzelecki Ranges and one site near Neerim Junction.

ENVIRONMENT: Moist, loamy soils on lowland hills.

ALTITUDE: Mean = 179m, Highest = 300m, Lowest = 30m

MEAN FLORISTIC RICHNESS: 35 species per site MEAN WEED COMPOSITION: 10% of species, 7% of cover

NOTES: Like most of the Damp Sclerophyll Forest in this region SCC 9.4 has suffered from logging and burning in the past. The understorey consists almost entirely of small, rapidly growing, opportunistic species and is dominated by a few aggressive fire weeds (e.g. <u>Fteridium esculentum, Gahnia radula</u>, <u>Tetrarrhena juncea</u>).



DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.5

CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	ZF RE Q	C/A
Clematis aristata	87	+	Foa australis spp. agg.	56	5	Eucalyptus muelleriana	46	2
Microlaena stipoides	83	+	Acaena anserinifolia	52	+	Echinopogon ovatus	42	+
Viola hederacea	77	+	Veronica calycina	52	+	Oichondra repens	42	+
Pteridium esculentum	71	1	Wahlembergia guadrifida	50	+	Eucalyptus cypellocarpa	42	3
*Hypochoeris radicata	65	+	Tetrarrhena juncea	48	1	Semecio lautus	40	+
Coprosma quadrifida	62	1	Lagenifera stipitata	48	+	Acacia melanoxylon	40	1
Geranium potentilloides	58	+	Cassinia aculeata	48	+	Olearia lirata	40	1
Helichrysum dendroideum	58	1	Goodemia ovata	48	1	Hydrocotyle hirta	37	+
Oxalis corniculata	56	+	Gonocarpus tetragynus	46	+	Hypericum gramineum	37	+

NO. OF SITES: 49

STRUCTURE: Open-forest

ENVIRONMENT: Moist but well-drained loamy soils on lowland hills.

ALTITUDE: Mean = 189m, Highest = 555m, Lowest = 30m

MEAN FLORISTIC RICHNESS: 33 species per site

MEAN WEED COMPOSITION: 10% of species, 6% of cover

NOTES: In places where <u>Pteridium esculentum</u> and <u>Tetrarhena juncea</u> do not dominate the understorey SCG 9.5 forms an attractive, open vegetation. The understorey is often dominated by tussock grasses with only sparse shrub cover and the canopy consists of tall <u>Eucalyptus globulus</u>, <u>E. viminalis</u> and <u>E. muelleriana</u>. SCG 9.5 is the only subcommunity in the study area supporting <u>E. globulus</u>.

DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.6

CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	ZF REQ	C/A	CHARACTER SPECIES	ZERED	C/A
Clematis aristata	93	+	Tetrarrhena juncea	79	+	Helichrysum dendroideum	64	2
Coprosma quadrifida	93	+	*Rubus vestitus	79	+	Geranium potentilloides	57	+
Viola hederacea	86	+	Hydrocotyle hirta	71	+	Polystichum proliferum	57	+
Acacia melanoxylon	79	2	Stellaria flaccida	71	+	Poa labillardieri	57	1
Pteridium esculentum	79	+	Microlaena stipoides	71	+			-
NO. OF SITES: 14			STRUCTURE:	Open-forest				

DISTRIBUTION: Concentrated in the Driffield area, with scattered occurrences in the foothills of the Strzelecki Ranges.

ENVIRONMENT: Moist but well-drained soils on the lower slopes and gullies of lowland hills.

ALTITUDE: Mean = 168m, Highest = 300m, Lowest = 110m

MEAN FLORISTIC RICHNESS: 32 species per site MEAN WEED COMPOSITION: 10% of species, 8% of cover

NOTES: SCG 9.6 is one of the few forests of the region in which an understorey tree species (in this case <u>Acacia melanoxylon</u>) is a more consistent and dominant part of the camopy than the major eucalypts.



DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.7

CHARACTER SPECIES	%FRED	C/A	CHARACTER SPECIES	VERED	C/A	CHARACTER SPECIES	ZERED	C/A
Pteridium esculentum	97	3	Lagenifera stipitata	58	1	Acrotriche serrulata	52	1
Poa australis spp. agg.	94	2	Leptospermum juniperinum	58	1	Bossiaea cinerea	48	1
*Hypochoeris radicata	94	1	Eucalyptus consideniana	58	3	Gramineae spp.	48	1
Epacris impressa	79	5	Lomandra longifolia	58	1	Pterostylis spp.	48	1
Gonocarpus tetragynus	64	1	Pimelea linifolia	55	1	Acianthus exsertus	45	1
Gahnia radula	51	2	Opercularia varia	55	1			
Lomandra filiformis	61	2	Senecio gunnii	52	1			
NO. OF SITES: 33			STRUCTURE: Open	-forest				

DISTRIBUTION: Concentrated north of the Strzelecki Ranges, between Traralgon and Merriman Creeks, with outlying occurrences at Holey Plains and south of Monkey Creek.

ENVIRONMENT: Relatively flat areas on sandy-loam soils.

ALTITUDE: Mean = 166m, Highest = 230m, Lowest = 80m

MEAN FLORISTIC RICHNESS: 26 species per site

MEAN WEED COMPOSITION: 8% of species, 7% of cover

NOTES: This sub-community occurs in ecologically and geographically similar sites to those supporting SCG 10.3 (Leptospermum myrsinoides Heathland). The two sub-communities share many species although L. myrsinoides does not dominate the understorey of SCG 9.7. DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.8

CHARACTER SPECIES	XF REQ	C/A	CHARACTER SPECIES	ZFREQ	C/A	CHARACTER SPECIES	XF HEQ	(/A
Gonocarpus tetragynus	100	1	Acrotriche serrulata	80	1	Gahmia radula	60	2
*Hypochoeris radicata	100	1	Eucalyptus radiata	80	З	Hypericum gramineum	60	1
Foa australis spp. agg.	100	3	Pterostylis spp.	80	1	Leptospermum juniperinum	60	5
Pteridium esculentum	100	2	Lomandra filiformis	70	1	Lomandra longifolia	60	1
Epacris impressa	80	1	Eucalyptus viminalis	60	5			

NO. OF SITES: 10

STRUCTURE: Open-forest

DISTRIBUTION: Concentrated north of the Strielecki-Ranges around Tranalgon Creek, with isolated occurrences near Gormandale and Flynn Creek.

ENVIRONMENT: Relatively flat areas on loam to clay-loam soils.

ALTITUDE: Mean = 123m, Highest = 180m, Lowest = 70m

MEAN FLORISTIC RICHNESS: 26 species per site MEAN MEED COMPOSITION: 8% of species, 5% of cover

NOTES: The soils in SCG 9.8 are heavier than those of SCG 9.7 and the former lacks those species which are also common in <u>leptospermum myrsinoides</u> Heathland and indicative of sandy soils. The high cover values for species such as <u>Pteridium esculentum</u>, <u>Gahnia sieberiana</u> and <u>Leptospermum juniperinum</u> in SCG 9.8 suggests a history of disturbance.



DAMP SCLEROPHYLL FOREST : SUB-COMMUNITY SCG 9.9

CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	%FREQ	C./A	CHARACTER SPECIES	XF RE Q	C/A
Eucalyptus radiata	94	3	Fteridium esculentum	81	2	Leptospermum juniperinum	69	5
Poa australis spp. agg.	81	5	*Hypochoeris radicata	75	1	Gomocarpus tetragynus	63	1
NO. OF SITES: 16			STRUCTURE :	Open-forest		· · · · · · · · · · · · · · · · · · ·		

DISTRIBUTION: Concentrated north of the Strzelecki Ranges, between Flynn and Merriman Creeks.

ENVIRONMENT: Relatively flat areas on loam to clay-loam soils.

ALTITUDE: Mean = 148m, Highest = 300m, Lowest = 80m

MEAN FLORISTIC RICHNESS: 19 species per site MEAN WEED COMPOSITION: 1

MEAN WEED COMPOSITION: 11% of species, 9% of cover

NOTES: SCG 9.9 is the most disturbed and species poor representative of this community. It is likely that heavy grazing pressure and occasional fires are the main disturbance factors.

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Leptospermum myrsinoides HEATHLAND : SUB-COMMUNITY SCG 10.1

		5.14		YE DE O	C /A	CUADACTED OPECIES	YERED	C /A
CHARACTER SPECIES	ZF RE Q	U/A	CHARACTER SPECIES	AF RE U	U/H	UNHRHUTER OFECTES	A NEG	67.0
Monotoca scoparia	84	1	Leucopogon ericoides	56	1	Lomandra longifolia	4 /	1
Pteridium esculentum	83	3	Lomandra filiformis	55	1	Gonocarpus tetragynus	47	1
Epartis impressa	78	1	Amperea xiphoclada	53	1	Leptospermum juniperinum	45	1
Bossiana cimerna	69	1	Banksia marginata	51	1	Caustis pentandra	44	1
Banksia serrata	67	2	Acacia oxycedrus	51	1	Hibbertia acicularis	44	1
Eucalyptus nitida	60	5	Leptospermum myrsinoides	49	5	Dillwynia glaberrima	42	1
NO. DF SITES: 54			STRUCTURE: Clos	ed-heath	n to [pen-forest		

DISTRIBUTION: Concentrated around Holey Plains, with scattered occurrences south of the Strzelecki Ranges and along the coast west from Tarra River.

ENVIRONMENT: Flat or undulating areas on deep siliceous sands.

ALTITUDE: Mean = 102m, Highest = 200m, Lowest = 5m

MEAN FLORISTIC RICHNESS: 16 species per site

NEAN WEED COMPOSITION: 0% of species, 0% of cover

NOTES: This is the least species rich of the sub-communities of Community 10 and is the only one in which <u>Eucalyptus nitida</u> is a character species. The presence of this species and others such as <u>Caustis pentandra</u> and <u>Xanthorrhoea australis</u>, creates a supericial similarity between SCG 10.1 and some of the woodlands in the Grampians. In the southern region, particularly Gellions Run, the major tree species is <u>E. viminalis</u>.



Leptospermum myrsinoides HEATHLAND : SUB-COMMUNITY SCG 10.2

CHARACTER SPECIES	%F REQ	C/A	CHARACTER SPECIES	%F RED	C/A	CHARACTER SPECIES	2FRE Q	C/A
Epacris impressa	90	1	Nonotoca scoparia	68	1	Banksia marginata	61	1
Leptospermum myrsinoides	77	2	Bossiaea cinerea	68	1	Lomandra filiformis	61	1
Leptospermum juniperinum	74	1	Hibbertia acicularis	68	1	Gonocarpus tetragynus	58	1
Eucalyptus consideniana	71	2	Banksia serrata	65	5	Acacia oxycedrus	55	1
Gatinia radula	71	2	Amperea xiphoclada	65	1	Dillwynia glaberrima	48	1
Pteridium esculentum	68	2	Xanthorrhoea minor	61	1	Lomandra longifolia	48	1

ND. OF SITES: 31

STRUCTURE: Closed-heath to Dpen-forest

DISTRIBUTION: Decurs mainly around the eastern foothills of the Strzelecki Ranges, with two isolated sites in the southern foothills of the Baw Baw Plateau.

ENVIRONMENT: Flat or undulating areas on deep siliceous sands.

ALTITUDE: Mean = 162m, Highest = 300m, Lowest = 40m

MEAN FLDRISTIC RICHNESS: 24 species per site

MEAN WEED COMPOSITION: 2% of species, 2% of cover

NOTES: The differences between SCC 10.2 and SCC 10.3 are only minor and the two sub-communities represent different ends of a subtle continuum. Perhaps the most significant difference between the two is the relative scarcity of <u>Banksia seriata</u> in SCC 10.3.

Leptospermum myrsionides HEATHLAND 💲 SUB-CUMMUN	UNITY	SUB-COMMUNITY	SCG 10.	. Э
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CHARACTER SPECIES	%F RE O	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	%F RE O	C/A
Epacris impressa	93	1	Leptospermum juniperinum	65	2	*Hypochoeris radicata	47	1
Pteridium esculentum	90	2	Monotoca scoparia	63	1	Banksia serrata	44	2
Gonocarpus tetragynus	78	1	Poa australis spp. agg.	61	2	Banksia marginata	44	1
Bossiaea cinerea	7B	5	Lomandra longifolia	54	1	Tetratheca pilosa	43	1
Gahmia radula	69	1	Correa reflexa	54	1	Pimelea limifolia	42	1
Amperea xiphoclada	67	1	Oillwynia glaberrima	53	1	Xanthorrhoea minor	39	1
Leptospermum myrsinoides	67	2	Lomandra filiformis	53	1	Hibbertia acicularis	38	1
Eucalyptus consideniana	66	2	Leucopogon virgatus	49	1			

NO. OF SITES: 116

STRUCTURE: Closed-heath to Open-forest

OISTRIBUTION: Concentrated on the northern side of the Strzelecki Ranges in the vicinity of Traralgon, Flynn and Merriman Creeks.

ENVIRONMENT: Flat or undulating areas on deep siliceous sands.

ALTITUDE: Mean = 172m, Highest = 310m. Lowest = 70m

MEAN FLORISTIC RICHNESS: 22 species for site MEAN WEED COMPOSITION: 3% of species, 2% of cover

NOTES: Community 10 represents the largest area of <u>Leptospermum myrsingides</u> Heathland in Victoria. SCC 10.3 is the largest stand of this community in the study area. There are only subtle differences between SCG 10.3 and SCG 10.2 and most significant of these is the lower abundance of <u>Banksia gerrata</u> in the former.



GRASSY WOODLAND : SUB-COMMUNITY SCG 12.1

CHARACTER SPECIES	VF RE O	C/A	CHARACTER SPECIES	%FRE0	C/A	CHARACTER SPECIES	%FREQ	C/A
Lomandra filiformis	75	1	Eucalyptus bridgesiana	65	1	Xanthorrhoea minor	60	1
Oxalis corniculata	75	+	Pimelea humilis	65	1	Hypericum gramineum	55	1
Pteridium esculentum	70	2	Eucalyptus muelleriana	60	2	Foa australis spp. agg.	55	1
Mícrolaema stipoides	70	1	Gahnia radula	60	2	Tricoryne elatior	55	+
Oichondra repens	65	1	Astroloma humifusum	60	+	Bossiaea prostrata	50	+
Lomandra longifolia	65	1	Poranthera microphylla	60	+	*Centaurium tenuiflorum	50	+

NO. OF SITES: 20

STRUCTURE: Open-forest

DISTRIBUTION: Occurs mainly on lowland areas south and east of the Strzelecki Ranges.

ENVIRONMENT: Flat or undulating inland areas on well- drained loamy soils.

ALTITUDE: Mean = 63m, Highest = 170m, Lowest = 20m

MEAN FLORISTIC RICHNESS: > 32 species per site MEAN WEED COMPOSITION: 6% of species, 3% of cover

NOTES: SCG 12.1 is the least disturbed of the community 12 sub-communities. This is perhaps because it grows on slightly more sandy soil than the rest of the community and is less suitable for pasture improvement. Its watural flora is made up of more sclerophyllous species and fewer grasses and herbs than that of SCG 12.2 to 12.4 so it is also less suitable for graing.

SCG 12.1 is one of only two sub-communities in the study area in which <u>Eucalyptus</u> <u>muelleriana</u> is a character species.

GRASSY WOODLAND : SUB-COMMUNITY SCG 12.2

CHARACTER SPECIE	S	%F RE Q	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	XF RE Q	<u>C/A</u>
*Hypochoeris rad	licata	96	1	Lagenifera stipitata	69	1	Eucalyptus viminalis	54	5
Poa australis s	spp. agg.	92	5	Conocarpus tetragynus	65	1	Leptospermum juniperinum	54	1
Pteridium escul	lentum	88	3	*Holcus lanatus	65	5	Gramineae spp.	50	1
Hydrocotyle lax	iflora	77	1	Hypericum gramineum	62	1	Senecio gunnii	50	1
Eucalyptus radi	iata	77	3	Poranthera microphylla	54	1	Acrotriche serrulata	50	1
Pimelea linifol	lia	73	1	Dichondra repens	54	1			
ND. DF SITES:	24			STRUCTURE: Dr	en-forest	to wo	oodland		
DISTRIBUTION:	Scattered	to the	norti) of the Strzelecki Range	es between	Trara	algon and Merriman Creeks.		
ENVIRDNMENT:	Flat or g	ently un	ndula	ing areas on clay~ loam	soils.				
	Hone - 11	3 U	art -	- 210m Lowart - 70m					

MEAN FLORISTIC PICHNESS: 26 species per site

MEAN WEED COMPOSITION: 15% of species, 13% of cover

NDTES: Much of the land on which this vegetation grows has been subject to a long history of grazing and pasture improvement. The natural vegetation occurs in small pockets rather than large continuous stands and supports significant populations of introduced species, most of which are of pastoral origin.



GRASSY WOODLAND : SUB-COMMUNITY SCG 12.3

	NE DE O	5.10	CHARACTER CRECIES	YEREO	C / A	CHARACTER SPECIES	%F REQ	C./A
CHARACTER SPECIES	4F RE U	U/H	CHARACTER SPECIES	/11 RE4		Common and the state of the sta	56	2
*Hypochoeris radicata	100	2	*Cynosurus echinatus	74	1	Gramineae spp.		
*Holous lanatus	91	2	Hydrocotyle laxiflora	68	5	Geranium solanderi	50	1
Dralis corpiculata	88	1	Poa australis spp. agg.	68	2	Lomandra filiformis	44	1
Eucalyptus radiata	82	3	Oichondra repens	65	1	Trifolium spp.	44	1
*Cirsium vulgare	76	1	*Stellaria media	62	5			
Pteridium esculentum	74	5	Eucalyptus viminalis	59	5			
NO. DE SITES: 04			STRUCTURE: 0	pen forest	to wi	oodland		

DISTRIBUTION: Scattered to the north of the Strielecki Ranges, extending from Traralgon Creek eastwards to Merriman Creek mear Willung.

ENVIRONMENT: Flat or gently undulating areas on clav loam soils.

ALTITUDE: Mean = 127m, Highest = 220m, Lowest = 40m

MEAN FLORISTIC RICHNESS: 24 species per site

MEAN WEED COMPOSITION: 00% of species. 00% of cover

NOTES: SCG 12.0 is the most disturbed and word infected sub community in this study. Introduced grasses and berbs dominate the understorey in most places and most of the native species are opportunists. Like SCG 12.2 and SCG 12.4 the areas supporting SCG 12.3 are usually small and surrounded by pastures.

GRASSY WOODLAND : SUB-COMMUNITY SCG 12.4

CHARACTER SPECIES	_	%FREQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	ZFREQ	C/A
*Hypochoeris radio	ata	93	1	Eucalyptus radiata	63	2	Eucalyptus viminalis	53	3
*Holcus lanatus		72	5	Dichondra repens	60	1	Hydrocotyle laxiflora	50	1
Poa australis spp	. agg.	63	2	Senecio spp.	57	1			
Pteridium esculen	tum	63	5	*Conyza bomariensis	57	1			
NO. OF SITES:	30			STRUCTURE :	Open-forest	to Wa	od land		
DISTRIBUTION:	Scattered	north c	f the	Strzelecki Ranges, m	ear Traralgon,	Flyn	n and Herriman Creeks.		

ENVIRONMENT: Sheltered boggy areas, or close to creeks and rivers. Soils often poorly drained clay-loams.

ALTITUDE: Hean = 96m, Highest = 180m, Lowest = 70m

MEAN FLORISTIC RICHNESS: 18 species per site

MEAN WEED COMPOSITION: 22% of species, 20% of cover

NOTES: Although not as weedy a SCG 12.3, SCG 12.4 supports an understorey which is usually dominated by introduced grasses and herbs and opportunistic native species. Occasionally, in wet depressions, the understorey is dominàted by dense thickets of <u>Helaleuca ericifolia</u> under a canopy of <u>Eucalyptus ovata</u>.



FRESHWATER MARSH : SUB-COMMUNITY SCG 13.1

CHARACTER SPECIES	ZEREC	C/A	CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	YERED C /A
Lemna minor	100) 1	Spirodela oligorrhiza	100	1	Triglochin procera	100 1
NO. OF SITES:	5		STRUCTURE :	Herbland			
DISTRIBUTION:	Occurs along Mor	well	liver.				

ENVIRONMENT: Shallow still water.

ALTITUDE: Hean = 40m, Highest = 50m, Lowest = 30m

HEAN FLORISTIC RICHNESS: 7 species per site MEAN WEED COMPOSITION: 7% of species, 2% of cover

NOTES: The number of sites recorded for SCG 13.1 is an underestimate of its actual abundance. This speciespoor, aquatic vegetation is found in a number of ponds and billabongs near the lower-altitude tributaries of the Morwell river. FRESHWATER MARSH : SUB-COMMUNITY SCG 13.2

CHARACTER SPECIE	S	ZFRED	Ç/A	CHARACTER SPECIES	ZFREQ	C/A	CHARAC TER	SPECIES	ZEREO	C/A
Eleocharis spha	icelata	100	5	Typha Spp.	67	3				
Triglochin proc	era	100	4	Potamogeton Spp.	67	4				
NO. OF SITES:	3			STRUCTURE :	Closed-sedge	land				
DISTRIBUTION:	Gellion's	; Run nea	r Gel	liondale.						
E MILLER OWNER OF										

ENVIRONMENT: Freshwater ponds which develop on clay soils in otherwise poorly-drained, sandy areas.

ALTITUDE: Mean = Om, Highest = Om, Lowest = Om

MEAN FLORISTIC RICHNESS: 4 species per site MEAN WEED COMPOSITION: 0% of species, 0% of cover

NOTES: Like most aquatic sub-communities, SCG 13.2 is floristically poor and generally dominated by one or two species. Unlike SCG 13.1, SCG 13.2 plants are rooted in the substrate and have aerial shoots even though the ponds in which they grow generally contain water all year round.



COASTAL HEATHLAND : SUB-COMMUNITY SCG 14.1

CHARACTER SPECIES	%FRE O	C/A	CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	%FRE 0	C/A
Empodisma minus	100	5	Melaleuca squarrosa	D83	4	Leptocarpus tenax	67	3
Leptospermum juniperinum	83	5	Selaginella uliginosa	83	1			
NO. OF SITES: 6			STRUCTURE :	Closed-heath				

DISTRIBUTION: Scattered occurrences at Holey Flains and Gellion's Run.

ENVIRONMENT: Poorly drained sites, usually of clay and sand substrates. Water is often close to or above the soil surface.

ALTITUDE: Mean = 80m, Highest = 120m, Lowest = 0m

MEAN FLORISTIC RICHNESS: 16 species per site

MEAN WEED COMPOSITION: 0% of species, 0% of cover

NOTES: <u>Melaleuca squarrosa</u> and <u>Leptospermum juniperinum</u> dominate this vegetation and produce a very deep leaf litter. As a consequence few understorey species are common in the generally shaded and waterlogged substrate of SCG 14.1. The most successful of the understorey species are members of the Restionaceae and Cyperaceae.

CHARACTER SPECIES	XF REQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	ZEREQ	C/A
Leptospermum juniperinum	100	3	Xanthorrhoea resinosa	71	4	Lepidosperma filiforme	57	2
Selaginella uliginosa	100	5	Casuarina paludosa	64	1	Leptospermum myrsinoides	57	2
Oillwynia glaberrima	86	2	Dampiera stricta	64	1	Epacris microphylla	57	1
Epacris impressa	86	1	Schoenus tenuissimus	64	2	Hibbertia procumbens	57	1
Leptocarpus tenax	86	5	Eucalyptus viminalis	64	2	Xanthorrhoea minor	57	1
Schoenus brevifolius	86	3	Burchardia umbellata	57	+			-
Lindsaea linearis	71	1	Empodisma minus	57	2			
ND. OF SITES: 14			STRUCTURE :	Closed-heath				
DISTRIBUTION: Scattered	through	and	around Gellion's Run					
ENVIRONMENT: Damp depre	ssions	of ne	ar-coastal plains.					
ALTITUDE: Mean = 5m,	Highes	t = 6	8m, Lowest ≈ 0m					
MEAN FLORISTIC RICHNESS:	29 spe	. 1e s	per site	MEAN WEED CO	MPOS1	TION: 1% of species, 0%	of cov	er

NOTES: The drier soils and lower densities of <u>Melaleuca squarrosa</u> and <u>Leptospermum</u> <u>juniperinum</u> than in SCG 14.1 correlate with a significantly higher floristic richness for SCG 14.2. This sub-community is a western representative of the 'grass-tree plain' vegetation which is best developed in East Gippsland (Forbes <u>et al</u>., 1982).



SEDGE SWAMFLAND : SUB-COMMUNITY SCG 15.1

CHARACTER SPECIES ZFREQ C/A CHARACTER SPECIES ZFREQ C/A CHARACTER SPECIES ZFREQ C/A Lepidosperma longitudinale 100 4 NO. OF SITES: 7 STRUCTURE: Closed-sedgeland

DISTRIBUTION: Holey Plains and Gellion's Run.

ENVIRONMENT: Damp depression on poorly-drained, often waterlogged clay soils.

ALTITUDE: Mean = 95m, Highest = 150m, Lowest = 0m

MEAN FLORISTIC RICHNESS: 5 species per site

MEAN WEED COMPOSITION: 2% of species, 1% of cover

NOTES: <u>Lepidosperma longitudinale</u>, like the related <u>Eleocharis sphacelata</u> (SCG 13.2), often grows in dense swards to the exclusion of all other ground cover species. It is probably the commonest sedge species of waterlogged , clay soils in Victoria.

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Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.1

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F REQ	C/A
Carex fascicularis	100	1	Leptospermum lanigerum	n 100	2	Scirpus marginatus	100	1
*Centaurium tenuiflorum	100	+	Lilaeopsis polyantha	100	1	Villarsia reniformis	100	1
Helichrysum rosmarinifolium	100	2	Melaleuca ericifolia	100	5	Hydrocotyle spp.	100	2
Lepidosperma longitudinale	100	2	Melaleuca squarrosa	100	3			
Leptacarpus tenax	100	1	Phragmites australis	100	1			
NO. OF SITES: 2			STRUCTURE:	Closed~scrub				
DISTRIBUTION: Gellion's I	Pun nea	r 01h	erton					

ENVIRONMENT: Poorly-drained samd-clay soils on flat or gently undulating land.

ALTITUDE: Mean = Om, Highest = Om, Lowest = Om

MEAN FLORISTIC RICHNESS: 17 species per site MEAN WEED COMPOSITION: 7% of species, 4% of cover

NOTES: <u>Melaleuca squarrosa</u> and <u>M. ericifolia</u> usually grow on quite different soil types (the former on waterlogged sands, the latter on heavier soils) but SCC 16.1 represents an unusual intermediate environment which is able to support both. As is usual for vegetation dominated by either of these species, the understorey of SCG 16.1 is open and made up principally of small herbaceous species.



Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.2

		2F RE O	C/A	CHARACTER SPECIES	ZEREQ	C/A	CHARACTER SPECIES	2F RE Q	C/A
Melaleuca ericifo	olia	100	3	*Hypochoeris radicata	67	1	Phragmites australis	67	2
NO. OF SITES:	2			STRUCTURE:	Open-scrub t	to Clo	osed-scrub		
DISTRIBUTION:	Both	sites are in	the	Flynn's Creek area.					
ENVIRONMENT:	0amp	depressions	on	poorly-drained clay so	ils in flat d	or ge≣	tly undulating country.		

ALTITUDE: Mean = 60m, Highest = 70m, Lowest = 50m

MEAN FLORISTIC RICHNESS: 11 species per site

MEAN WEED COMPOSITION: 33% of species, 20% of cover

NOTES: <u>Helaleuca ericifolia</u> and <u>Phragmites communis</u> are common, opportunistic species on roadside verges, drains and damp depressions on alienated land. Sub-community SCG 16.2 is an example of this situation where much of the understorey is made up of introduced species and the overstorey is dominated by native trees and shrubs. Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.3

CHARACTER SPECIE	S	%F REG	C/A	CHARACTER SPECIES	3	2F RE Q	C/A	CHARACTER SPECIES	XF RE Q	C/A
Carex appressa		89	+	*Cyperus eragrost	is	67	+	*Myosotis laxa	56	+
*Rumex conglomer	atus	89	+	Calystegia sepiu	m	56	1	*Nasturtium officinale	56	+
Polygonum minus		78	1	Melaleuca ericif	olia	56	5			
NO. OF SITES:	7			STRUCTUR	Ε:	Closed-scrub	to S	Gedgeland		
DISTRIBUTION:	forwell	River ne	ar Mo	rwell, south of t	he La	atrobe River a	and we	est of Traralgon.		

ENVIRONMENT: Disturbed areas of damp depressions, with poor drainage and clay soils.

ALTITUDE: Mean = 30m, Highest = 30m, Lowest = 30m

MEAN FLORISTIC RICHNESS: 19 species per site

MEAN WEED COMPOSITION: 31% of species, 18% of cover

NOTES: This sub-community, like SCG 16.2, is one where the opportunistic native species <u>Melaleuca ericifolia</u> and <u>Phragmites</u> communis dominate a disturbed area of land with a ground cover consisting largely of introduced herbs and grasses.



Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.4

ARACTER SPECIES %FRE	Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SEECTES	7E RED	Γ /Δ
elaleuca ericifolia 10	00	5	Acacia longifolia	83	1	Disphyma clavellatum	82	1
Senecio lautus 83	3	1	Acacia verticillata	83	1	Rhagodia baccata	83	1
							02	-

NO. OF SITES: 6 STRUCTURE: Closed-scrub

DISTRIBUTION: Coastal dunes between Port Welshpool and Port Albert.

ENVIRONMENT: Poorly-drained sands on coasts immediately inland from the salt spray zone.

ALTITUDE: Mean = Om, Highest = 2m, Lowest = Om

MEAN FLORISTIC RICHNESS: 16 species per site

MEAN WEED COMPOSITION: 13% of species, 8% of cover

NOTES: <u>Helaleuca ericifolia</u> dominates this species-poor sub-community which may be a disturbed version of SCG 21.2 (Coastal Banksia Woodland).

Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.5

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A
Mentha diemenica	100	+	Hydrocotyle sibthorpioides	100	+	Baumea juncea	100	5
Centella cordifolia	100	+	Leptocarpus brownii	100	1	Melaleuca ericifolia	100	3
Gahnia trifida	100	1	Lobelia alata	100	1	Samolus repens	100	1
NO OF SITES: 2			STRUCTURE: Close	d-scrub	to C	losed-herbfield		<u> </u>

DISTRIBUTION: Restricted to Snake Island.

ENVIRONMENT: Poorly-drained mud-flats immediately inland from the salt marsh and subject to sea spray.

ALTITUDE: Mean = 1m, Highest = 2m, Lowest = 0m

MEAN FLORISTIC RICHNESS: 16 species per site

MEAN WEED COMPOSITION: 6% of species, 3% of cover

NOTES: SCG 16.5 usually grows adjacent to the salt marsh on Snake Island. However the lack of any salttolerant species in this sub-community suggests that the waterlogged soils are inundated with fresh water rather than sea water.



Melaleuca ericifolia SCRUB : SUB COMMUNITY SCG 16.6

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	YFREQ	C/A	CHARACTER SPECIES	XF REQ	C/A
Centella cordifolia	100	1	Selaginella uliginosa	67	1	Lagenifera gracilis	56	1
lentospermum uniperinum	39	2	Gahnia trifida	67	2	Schoenus tesquorum	56	3
Leptorarpus tenax	78	2	Gnaphalium spp.	67	1	Gonocarpus micranthus	56	1
Melaleura eririfolia	78	3	*Hypochoeris radicata	67	+	Hemarthria uncinata	56	1
Baumea acuta	78	5	Lobelia alata	67	1	Microlaena stipoides	56	1
Goodenia humilis	57	2	Gonocarpus tetragynus	56	1			
Deveuxia densa	67	1	*Centaurium tenuiflorum	56	+			
			STRUCTURE:	Closed-scrub				
MO. OF SLIES. J				010300 30700				

DISTRIBUTION: Concentrated in the region of Gellions Run to the South.

ENVIRONMENT: Poorly-drained, sandy-clay soils on flat or gently undulating terrain.

ALTITUDE: Mean = Om, Highest = Sm, Lowest = Om

MEAN FLORISTIC RICHNESS: 31 species per site MEAN WEED COMPOSITION: 4% of species, 1% of cover

NOTES: This is the least weedy of the SCC 16 sub-communities. It grows in association with the Coastal Heathland of Gellions Run and consequently supports a number of species which are also characteristic of that vegetation. SCG 16.6 is the only sub-community in the region in which the relatively uncommon species <u>Deveuria densa</u> and <u>Schoenus</u> <u>tesquorum</u> are character species.

Melaleuca ericifolia SCRUB : SUB-COMMUNITY SCG 16.7

CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A
Acacia stricta	100	+	Leptospermum juniperinum	100	5	Danthonia laevis	75	1
Bossiaea prostrata	100	+	Melaleuca ericifolia	100	5	Orosera peltata	75	+
Centella cordifolia	100	+	Microlaena stipoides	100	1	*Hypochoeris radicata	75	+
Euralyptus ovata	100	5	Stipa mervosa	100	5	Poa australis spp. agg.	75	1
Gahmia radula	100	2	Oeyeuxia quadriseta	75	+	Senecio glomeratus	75	+
Gonocarpus tetragynus	100	1	Schoemus apogon	75	+			

NO. OF SITES:

STRUCTURE: Closed-scrub

DISTRIBUTION: An isolated occurrence in the Hedley Pange to the south.

ENVIRONMENT: Poorly-drained, sandy-clay soils on hilly terrain.

ALTITUDE: Mean = 15m, Highest ≈ 15m, Lowest = 15m

MEAN FLORISTIC RICHNESS: 36 species per site

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MEAN WEED COMPOSITION: 11% of species, 5% of cover

NOTES: Many of the <u>H. ericifolia</u> sub-communities are on disturbed land which supports a range of introduced, oportunistic plants. SCG 16.7, however, supports mainly native species and is quite floristically rich. Unlike other sub-communities of SCG 16 this sub-community is not entirely dominated by <u>M. ericifolia</u> even though its is a consistant and significant part of the canopy.



RIPARIAN SCRUB : SUB-COMMUNITY SCG 17.1

CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	%FREQ	C/A
Carex appressa	86	+	Foa tenera	71	1	Leptospermum juniperinum	57	2
Gratiola peruviana	86	+	Helichrysum dendroideum	71	+	Melaleuca squarrosa	57	3
Tetrarrhena juncea	86	+	Hydrocotyle tripartita	57	+	lsolepis inundata	57	+
Cyperus lucidus	71	1	Acacia melanoxylon	57	5			
Gnaphalium involucratum	71	+	Histiopteris incisa	57	+			

NO. OF SITES:

7

STRUCTURE: Low open-woodland to Closed Scrub

12% of species, 8% of cover

OISTRIBUTION: Foothills of the Strzelecki Ranges in the Oriffield area.

ENVIRONMENT: Shallow and slow-running watercourses.

ALTITUDE: Mean = 111m, Highest = 150m, Lowest = 90m

MEAN FLORISTIC RICHNESS: 25 species per site MEAN WEED COMPOSITION:

NOTES: Riparian vegetation is often floristically very rich (e.g. Gullan <u>et al.</u>, 1981), however SCG 17.1 is relatively poor in species. This is probably due to the clearing of native vegetation right up to the banks of local watercourses resulting in the destruction of many specialist waterside species.

RIPARIAN SCRUB : SUB-COMMUNITY SCG 17.2

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CHARACTER SPECIES	ZFREQ	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SHELLES	XF REQ	L/A
Blechnum minus	100	1	Leptospermum lanigerum	80	3	*Solanum nigrum	60	+
*Hypochoeris radicata	100	+	Baumea tetragona	80	2	*Sonchus oleraceus	60	+
Lobelia alata	100	+	Schoenus maschalinus	50	+	Viola hederacea	60	1
Melaleuca squarrosa	100	4	*Rubus vestitus	60	+	Blechnum nudum	60	+
Gonocarpus tetragynus	80	+	Gnaphalium involucratum	60	+	Empodisma minus	60	+
Gleichemia dicarpa	80	1	Juncus planifolius	60	+	Eucalyptus ovata	60	5
Hydrocotyle sibthorpioides	80	+	Leptospermum jumiperinum	60	1	*Holcus lamatus	60	+
Hypericum japonicum	80	+	Isolepis inundata	60	+	Poa tenera	60	1

NO. OF SITES: 5

STRUCTURE: Low open-woodland to Closed Scrub

DISTRIBUTION: Mainly in the foothills of the Strzelecki Ranges between Yallourn and Narracan, with a single occurrence north of Mt. Tanjil.

ENVIRONMENT: Shallow and slow-running streams.

ALTITUDE: Mean = 122m, Highest = 220m, Lowest = 60m

MEAN FLORISTIC RICHNESS: 35 species per site MEAN WEED COMPOSITION: 17% of species, 9% of cover

NOTES: SCG 17.2 is structurally similar to SCG 16.3, but <u>Melaleuca squarrosa</u> replaces <u>H. ericifolia</u> as the dominant species. The sandy, waterlogged soils support a wide variety of sedges.



UNCLASSIFIED : SUB-COMMUNITY SCG 18.1

CHARACTER SPECIES	XFRE Q	C/A	CHARACTER SPECIES	%FREQ	C/A	CHARACTER SPECIES	%FREQ	C/A
Melaleuca squarrosa	100	5	Sprengelia incarnata	66	5	Selaginella uliginosa	66	5
Leptospermum juniperinum	100	3	Leptocarpus tenax	66	5			
NO. OF SITES: 3			STRUCTURE :	Closed-heath	1			
DISTRIBUTION: Gel	lion's Ru	n						
ENVIRONMENT: Damp dep	ressions (ofne	ar-coastal plains.					
ALTITUDE: Mean = 0	m, Highest	. = 0	m, Lowest = Om					
MEAN FLORISTIC RICHNESS:	7 speci	Les p	er site	MEAN WEED COM	POSIT	ION: 0% of species, 0	% of cove	٢

NOTES: There are too few representatives of this vegetation to adequately classify it in this survey. However its floristic compositon and environment suggest that it may be a species-poor version of Community 14 (Coastal Heath).

MANGROVE : SUB-COMMUNITY SCG 19.1

CHARACTER SPECIES Avicennia marina	5 <u>2F RE 0</u> 100	C/A CHARACTER SF 5	ECIES	FREQ C.A	CHARACTER SPE	CIES	ZFREQ C/A
NO. OF SITES:	2	STR	UCTURE: Cloesd	heath to	Closed-scrub		
DISTRIBUTION:	The coast west of	Fort Albert.					
ENVIRONMENT: vegetation.	Coastal mudflats	subject to regular	tidal inundation	n. On the	extreme seaward	edge of the	terrestrial
ALTITUDE:	Mean = Om, Highes	st = Om, Lowest = (Dm				
MEAN FLORISTIC RI	ICHNESS: 1 spec	ties per site	MEAN WEE	D COMPOSI	IT10N: 0% of	F species, 0%	of cover

NOTES: The mangrove vegetation is represented by only two sites in this study but it occupies about 30 to 40% of the coastline of Corner Inlef. It always grows in single species stands and forms what appears to be a buffer zone between the sea and the Salt Marsh (Community 20).



SALT MARSH : SUB-COMMUNITY SCG 20.1

CHARACTER SPECIES	5	7FRED	C/A	CHARACTER SPECIES	ZF RE Q	C/A	CHARACTER SPECIES	XF RE Q	C/A
Sarcocornia quir	queflora	90	3	Distichlis distichophyll	a 57	5	Disphyma clavellatum	52	1
NO. OF SITES:	21			STRUCTURE: OP	en-heath	to Clo	osed-herbfield		—
DISTRIBUTION:	Scattered	along t	he s	ainland and island coast	5.				

ENVIRONMENT: Mudflats subject to tidal inundation.

ALTITUDE: Mean = Om, Highest = 1m, Lowest = Om

MEAN FLORISTIC RICHNESS: 9 species per site

MEAN WEED COMPOSITION: 5% of species, 3% of cover

NOTES: The salt marsh of Corner Inlet will often cover extensive tracts of mudflats (e.g. Margaret Is.) but it is not as floristically rich and varied as the salt marsh of Western Port (see Bridgewater and Hughes 1974). It does, however, represent one of the largest areas of salt marsh in Southern Australia.

CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	2FRE Q	C/A
Banksia integrifolia	100	1	*Aira caryophyllea	67	1	Lomandra longifolia	67	1
Dichondra repens	100	1	Astroloma humifusum	67	+	Pteridium esculentum	67	5
Lepidosperma concavum	100	1	Carpobrotus rossii	67	+	Clematis microphylla	67	+
Leucopogon parviflorus	100	1	Gonocarpus teucrioides	67	1	Isoetopsis graminifolia	67	1
Semecio lautus	100	1	Hibbertia sericea	67	1	Isolepis nodosa	67	1
NO DE CITECE 2					4			

COASTAL BANKSIA WOODLAND : SUB-COMMUNITY SCG 21.1

DISTRIBUTION: Coastal dunes at the mouth of Bruthen Ck., and and southward along the sandy promontory beside St. Mangaret Island.

ENVIRONMENT: Calcareous sands inland from the primary dunes.

ALTITUDE: Mean = 4m, Highest = 5m, Lowest = 2m

MEAN FLORISTIC RICHNESS: 21 species per site

HEAN WEED COMPOSITION: 10% of species, B% of cover

NOTES: Much of the development in the study area has caused land to be cleared right up to the coastline and Coastal Banksia Moodland is consequently uncommon. There may be isolated occurrences at other coastal localities in the study area but these will be few. The reduction in this community is of particular importance to honeyeaters and other nectiferous animals. <u>Banksia integrifolia</u> (the main species in Coastal Banksia Moodland) flowers from early winter to spring and provides an important nectar supply at a time of year when the other banksias of the region are not flowering (<u>B. serrata</u> flowers in summer and <u>B. marginata</u> flowers from late summer to mid-winter).



COASTAL BANKSIA WOODLAND : SUB-COMMUNITY SCG 21.2

CHARACTER SPECIES	XF RE Q	C/A	CHARACTER SPECIES	%F RE Q	C/A	CHARACTER SPECIES	%FREQ	C/A
Banksia integrifolia	100	2	Galium propinguum	67	1	Rhagodia baccata	67	1
Oichondra repens	100	1	*Aira caryophyllea	67	1	Isolepis nodosa	67	1
Lepidosperma gladiatum	100	2	*Conyza bonariensis	67	1			
Poa australis spp. agg.	83	1	Lagenifera stipitata	67	+			
NO. OF SITES: 6			STRUCTURE:	Low open-for	est			

DISTRIBUTION: Restricted to Snake Island, particularly near the coast.

ENVIRONMENT: Calcareous sands inland from the primary dunes.

ALTITUDE: Mean = 2m, Highest = 5m, Lowest = 1m

MEAN FLORISTIC RICHNESS: 21 species per site HEAN WEED COMPOSITION: 13% of species, 10% of cover

NOTES: Snake Island has been grazed and burnt in the past and the sub-community SCG 21.2 shows signs of this disturbance in the number of introduced and opportunistic species it supports. Nevertheless SCG 21.2 is extensive on the island and represents the largest stand of the community in the study area.

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